Issues in Social Demography

A K SHARMA

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Foreword
Ravi K. Verma

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Foreword

Social demography, which touches upon the sociology on the one hand and demography on the other, has not acquired the legitimate status in either disciplines mainly due to the overemphasis placed on the quantitative methods to unveil the multidimensional issues by present day demographers and sociologists working in the field of population. The obsession with the quantitative approach has landed the discipline into a heap of routine and descriptive research projects which are mere skeletons with no flesh on them. While there is no denying the usefulness of quantitative methods, an indiscrete use of them–which in most cases tend to violate the basic premises underlying these methods – have yielded no meaningful results.

an acute need for the proper use of the combination of methods – both quantitative and qualitative – is perhaps never felt before as it is today. It is today. It is in this context, that the book entitled *Issues in Social Demography* by Dr. A. K. Sharma becomes most relevant and sure reminder to those who wish to pursue knowledge in the field of social demography in a holistic manner and (see) the growth of it in right earnest.

Written lucidly with a tinge of philosophy, the book not only makes interesting reading, but also succeeds in stionulating thoughts on the subject. As a student of Research Methodology, I consider the book to be extremely useful and feel that the book should serve as a constant source of reference to all those interested in the understanding and interpretation of the complex and multidimensional social demographic phenomena. I would strongly recommend the book to the students of research methodology, particularly chapter 3, where problems inherent in the quantitative methods have been presented in the simplest possible terms, and should be grasped even by those who have no formal statistical background.

Finally, I may add that the main contribution of the book lies in raising several of those issues of which we are all aware but the existence of which we dare not admit in formal academic contexts. I am sure the book will succeed in initiating a debate among the sociologists and demographers alike.

International Institute of Population Sciences Ravi K. VERMA
BOMBAY

Preface

This book a attempts to define and develop the subject matter of social demography, chiefly in the Indian context. It is true that there is no dearth of literature in this area. Both Indian and foreign writers have written a large number of books and papers on fertility, mortality and migration which constitute three major parts of demographic studies. But most of these works have been done in a particular framework – that is, the framework of neo-positivism – and the sociologists have generally not evaluated the content of social demography with their own theoretical concepts and methodological tools. In this context, the book deals with the substantive issues, theoretical perspectives and research methodologies of social demography in a sociological perspective. In order to help the Indian students, the Indian problems of social demography such as urbanization and migration, the relationship between population and poverty, and issues in population management have also been incorporated in this book.

This book presents what I have learnt in teaching sociology and demography, while working with some very sharp academicians, and in attending seminars at I.I.T., Kanpur. Some of the ideas here are therefore not strictly my own; rather they reflect my own understanding of the battle of contemporary ideas. A section entitled 'Poverty and Population: A Decision Problem' is based on an unpublished paper which I wrote with Dr. M. A. Ansari who is on the faculty of Psychology at I.I.T., Kanpur. Dr. Ansari has also helped me by offering his comments and editing the first and the sixth chapters. I am highly thankful to Dr. (Mrs.) K. Geeta, Mr. R. K. Mohanty, and Mr. A. Panda for taking pains to go through my chapters and offering their editorial suggestions. Lastly, I acknowledge the financial support provided by the Quality Improvement Programme (Q.I.P.) of the Ministry of Education.

Special thanks are due to Mr. Jayant Upadhyay for final editing, and to Mr. V. N. Katiyar for typing of the manuscript.

A. K. SHARMA

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Introduction

Social demography may be defined as the analytical study of the relationships between socio-cultural factors, on one hand, and structure and process of population on the other. It concentrates on the interface between sociological and demographic factors; and, theoretically, it is both a sociology of demographic trends and a demography of social structures. The main aim of a demographic project is to provide a contextual and relational – that is, an existential – theory of demographic factors and change so as to improve academic understanding of the statics and dynamics of human population. While demographic laws are supposedly universalistic, the social demographic laws are by nature relativistic because they relate the social demographic laws to their socio-cultural substratum. Secondarily, its aim – which has not received much attention but which is pregnant with great intellectual possibilities – is to formulate and examine demographic theory of society: it examines the extent to and ways in which the demographic factors induce changes in social institutions and processes.

Yet, social demography, a legitimate child of sociology, suffers from greatest hypostatization in the sociological space in India. It is yet to become *Insaan* (an urdu word for man that the villagers apply restrictively to a modern self-sufficient person and not to any and every person). Social demography can grow into an *Insaan* by bringing demographic analysis into a proper sociological framework. Today, the art of social demography is practised both by sociologists and demographers, but in the making it does not adequately explain the complexities of the socio-demographic nexus; and it does not make for the theory of fundamental interconnections. In the process, it yields either a highly descriptive knowledge or it becomes a plane and routine exercise in application of existing – or newly innovated –

statistical models to the existing form of population data – without paying heed to their cultural bases and their quality. The sociologists, who claim to specialize in population, relish mainly to collect and present data on fertility, mortality, migration, and population-composition, and show their diachronic and synchronic variations. Demographers and statisticians, on the other hand, are busy correcting methods of collection and analysis of data, suggesting new ways of measuring phenomena, improving upon knowledge of the latent quantitative patterns, and developing tools of estimation and inference in the absence of complete and reliable data. Most often it is not very easy to distinguish sociology of population from demographic research, and the former appears only as a crude or less sophisticated knowledge of qualitatively latter variety. Sociological theory is very rarely applied to raise new questions, explain the socio-economic and cultural bases of demographic processes, and reflect on itself in the final analysis. This hypostasis of demographic concepts in sociology has obstructed its growing into an authentic body of knowledge.

It is difficult to say precisely what is inside or outside the scope of social demography. It embodies variety of demographic forms at regional, national and international levels, and multiplicity of socio-cultural formations. It is the philosophy of enquiry – that treats both population and society simultaneously and as endogenous variables – rather than the subject matter that defines the scope of social demography. Broadly, the following tasks may be included within its range of problems:

1. To describe, analyse and explain the demographic situation in a society.
2. To study the socio-cultural implications of population trends and composition.
3. To suggest strategies to alleviate perceivedly problematic demographic conditions.
4. To formulate, test, revise, and improve upon the demographic theories of society.
5. To examine the socio-demographic ideologies and utopias of the contemporary world.

Conventionally, the social demographers have focused on the first three objectives, ignored the fourth, and did not risk their work to ideological interventions which was necessary to make their science a genuine policy science of human action. Sociology has gained tremendously from studies of social forms and processes, *e.g.* knowledge, organizations, development, etc. in the past, in both contents and conceptual formations. It may similarly gain from the study of population today. As a matter of fact, it is the reciprocity between demographic and social sciences which should become the prime focus of social demography. Fig. 1.1 shows the social demographic plan, that may be attempted upon completion of the purely descriptive or the purely mathematical conventional tasks. The figure shows that social demography uses social theory in selecting a population problem for investigation: absence of theoretic aid in India has caused only random and disjointed growth of research-literature, and produced models and empirical finding which could not be weld into a single interpretative system of thoughts. Consequently, research remains far from being cumulative,

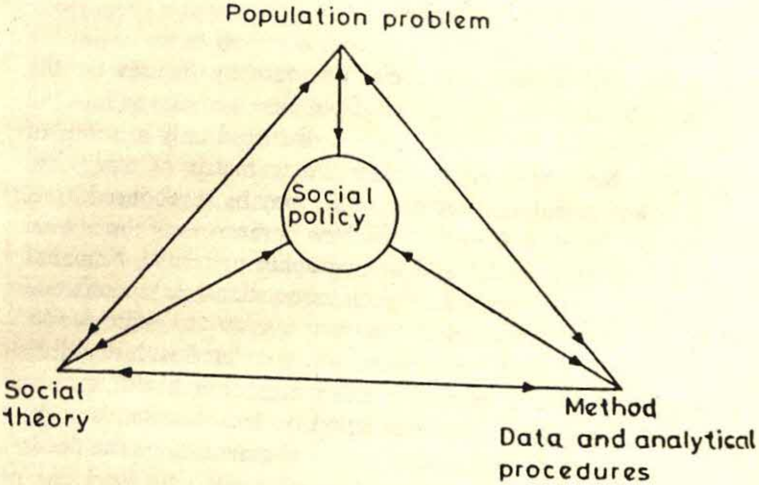

Fig. 1.1: The social demography plan

and researchers continue to select routine, repetitive, practical, and Ph.D. - type problems. It has not been recognized that a real problem of social demography is a common problem of both social policy and social theory. Furthermore, there is no mechanical method and procedure - of research. Research method is as much a matter of tools and techniques as of problem, policy orientation, and theoretical paradigms. In turn, increasing sophistication in operational analytical science affects the nature of identification and the precision of atriculation or a problem. In this scheme all the four things, *viz*., population problem, social theory, method, and social policy are equally salient.

Challenges of Social Demography

As mentioned above, the social demography focuses on the association between sociological and population factors, and thus the challenges of social demography can be discussed only in terms of such factors. Nam has recently classified 'a matrix of traditional sociological and population factors' which may be reproduced here. According to him, it enables us to highten 'awareness of the myriad associations of basic social and demographic patterns'. Nam has himself given three examples of such associations: (*a*) population socialization, *i.e.,* socialization process that operates to guide people into the values, attitudes, and behaviours associated with decisions about family size goals, contraceptive use, migration, health, etc. . .; (*b*) effect of changes in age composition on stratification; and (*c*) impact of fertility decline and population redistribution on the needs for educational establishments and personnel.[1]

Sociological Factors	*Population Factors*
Culture	Population size
Values and attitudes	Age and sex
Norms	Morbidity
Statuses and roles	Mortality
Socialization	Fertility control
Minorities	Fertility
Social stratification	International migration
Complex organization	Local residential mobility

Collective behaviour
Social control
Social deviance
Family
Education
Economy
Religion
Science
Government
Leisure
Social change
Non-residential mobility
Population redistribution
Other population characteristics
Demographic change

It should be noted that over and above the matrix of social demographic relationships, sensitivity of a researcher to choice of appropriate social theory is important. Theories are the conceptual schemes which are developed to explain observed regularities or relationships. They are based on certain postulates and they make it possible to achieve precision, generalization and prediction. But sociological theory means different things to different peoples: social thoughts of the masters and their schemes of social analysis; paradigms, perspectives and models; abstracted empiricism; speculative theories; hypotheses; and just empirical findings. There are positive as well as normative theories. There are action as well as structural theories. They are developed at various levels of analysis – micro, meso and macro. In other words, there is no ready-made answer to the demands of theoretical construction. Thus the naive workers in the area of social demography, who is not sufficiently trained to appreciate sociological perspectives, may be disenchanted in the beginning itself from the apparent anomie in theoretical sociology. For him, it may be emphasized that the different social theories are not merely the alternative explanations of the same problem, but they concentrate on the different dimensions of the same problem. And there is a need to combine multiple social perspectives, methods, and theories. Denzin, who has given the idea of triangulation–that is, bringing perspectives and methods together – suggests that no method can reveal all about social processes; and, in a comprehensive work, combination of data and methods is oftentimes more relevant than a single method.[2] In this context, we have identified some theoretical schemes which would highly suit to studying some social demographic issues. Table 1.1 presents these schemes against the research problems they can appropriately tackle. It should, however, be mentioned that the table does not suggest that alternative schemes are irrelevant to study a problem. The table is tentative, and serves only the illustrative purpose. The schemes are chosen on the basis of their core concerns; the problems shown in the table do not delimit the scope of these schemes.

TABLE 1.1 : **Social Demographic Problems and Relevant Sociological Theories**

Problem	*Schemes*
1. Definition, measurement, quantification and description of demographic trends, and estimation from incomplete data.	Neo-positivism: application of physical science models, positivistic epistemology, operationalism, quantitativism, empiricism, behaviourism, mathematical theory
2. Population, technology, and culture	Ecological perspective
3. Population and society	Systems theory and structuralism
4. Determinants and consequences of population trends for society, social institutions, groups and individuals	Functionalism: macro and micro
5. Marriage, kinship and female autonomy as bases of fertility; sequential decisions	Exchange theory
6. Social structure, mortality, migration, and family planning programme	Conflict theory
7. Understanding motives and subjectivity in actions	Phenomenology and ethnomethodology
8. Interaction, communication and dynamic structures	Symbolic interactionism
9. Poverty, deviance and Population	Theories of anomie and alienation

Now we shall briefly touch upon the aforementioned theories. Sometimes a question is asked: which theory explains the contemporary Indian situation best? The sociologist may also be asked to state his ideology, specially by those who believe that sociology cannot be separated from ideology. The triangulation perspective, however, does not recognize genuineness of this question. Since in this perspective, specific theory is applied to explain specific aspect of the problem and not the whole problem; and the explanation enriches itself by borrowing conceptual categories and tools of analysis from several (seemingly diverse) theories.

The most influential and widely accepted – covertly or overtly – theory of social demography has been the theory of neopositivism. The positive philosophy of sociology, which was given for the first time by Comte, suggests that all phenomena, including social ones, can be regarded as subjected to invariable laws, and the job of any researcher is to discover these laws with a view to reduce them to the smallest possible number.[3] Comte showed that there are three methods common to all positive sciences -- observation, experimentation and comparison – and mathematical science is the source of their positivity. He also presented that sociology has added to sciences by providing them historical method as its unique contribution.[4] The neo-positivistic approach is basically inductive - propositional approach: it says that all kinds of empirical methods can and should be applied to examine and explain demographic behaviour. The assumption is that the social demographic world is autonomous in that it exists exterior to man, and thus it can be apprehended by scientific method, *i.e.*, by developing objective constructs of the phenomena under study, operationalization of the concepts, systematic observation/experimentation, and statistical and mathematical methods of analysis and inference at any – micro or macro – level. Needless to say, the concern with policy experimentation in modern age of planning has created enormous need for large scale data and their analyses, and for considering their patterns and implications. Use of high generation computers has now increased an analyst's capabilities manifold: the advances in scientific data analysis have lured many social researchers into apparently scientific work of statistical modeling. But from philosophical angle, this theory of positive social demography suffers from many problems. The major weakness of this theory is that it disregards the relationship between conditions of man and his consciousness due to its essentialist assumptions which are very strong. Human action cannot be equated to mechanical action, nor the structure of human action – which is subjectively meaningful – to mathematical space. The mathematical models are based on certain assumptions. When they are violated, as is generally the case in human situation, they lead to erroneous conclusions.

Ecological perspective focuses on the relationships between the four categories of variables which constitute the ecological complex: population, organization, environment, and technology. The salient features of the ecological perspective are as follows: *(a)* a stress on the study of spatial relationships; *(b)* an assumption of the interdependence between the organism and the environment; *(c)* holistic approach; *(d)* concept of equilibrium; *(e)* strong empirical base; and *(f)* interdisciplinary frame of reference.[5] This implies that the ecological perspective is neo-positivist in method. Despite this, it rejects the idea of abstracting social relationships from their larger systemic contexts. Rather, it attempts to solve the mysteries of metamorphosis of ecological system as a whole in terms of changes in one or more of its constituent elements. It employs an evolutionary philosophy and it can be of immense help to social demographic forecasting.

Sociologists have also made attempts to look at society in general terms of systems analysis. Unlike ecological theorists, who concentrate on the relationship between society and its environment; the systems theorists look for the general laws of systems and structures in whose light sustenance and change of systems may be explained. Though the systems perspective attaches priority to order, integration and working of the systems, by considering information and communication nets, control, consensus and stability, some of its variants have also been used for the study of conflicts and crises. Rastogi once showed me a Cybernetic model of mortality that he had developed for my thesis that inequality with respect to mortality is part of the general stratification.[6] Fig. 1.2 presents this model. The figure shows *(a)* the relevant variables of the mortality model, *i.e.*, class structure, changes in the model of the social system, distribution of social rewards, health strategies, environmental development, distribution of medical consumption, attitudes and values attached to illness and death, and level of mortality; *(b)* their relationships and directions of causality; *(c)* salient variables; and *(d)* the various positive and negative feedback loops. In a complex dynamic self-regulating system, negative control cycles seek to achieve the regulatory objective of stability and balance by feeding a

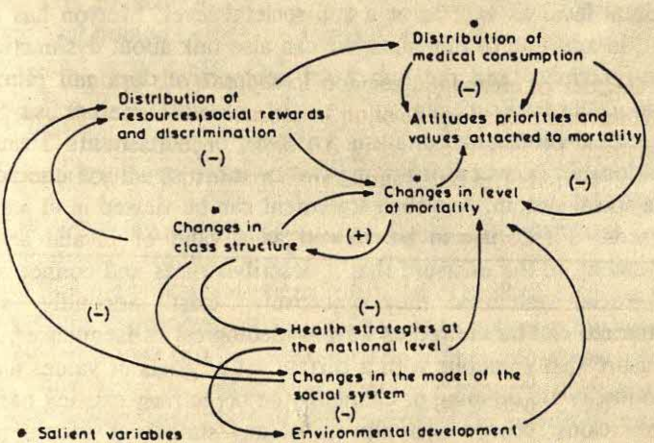
Distribution of medical consumption
(–)
Distribution of resources, social rewards and discrimination
Attitudes priorities and values attached to mortality
(–)
Changes in level of mortality
(–)
Changes in class structure
(+)
(–)
(–)
Health strategies at the national level
Changes in the model of the social system
(–)
• Salient variables
Environmental development

Fig. 1.2: A cybernetic model of social inequality and deaths
Source: Rastogi P.N., in a personal communication

negative input to the deviating variable or state, while the positive control cycles achieve cumulative change in a desired direction. Further, the time path of the system can be simulated by an appropriate methodology to validate the system or predict the future developments. The variables involved in the cybernetic model are selected on the following bases:[7]

1. Goals of the system
2. Structure of the system
3. Functions of the system
4. Processes and activities of the system
5. Environment of the system

The next perspective of structural functionalism deals specifically with the relationship between parts of the social system, or between a part and the whole. In this perspective, something exists in a society because that serves a definite purpose or order (function). Even the negatively evaluated facts such as poverty, high mortality, absence of social mobility, low age at marriage, unemployment, prostitution, excessive population growth, etc. have some useful implication for society. They may be latent or unintended, and not necessarily the intended or manifest ones. They may be observed at societal level as well as at a sub-societal level. Merton has added that, in addition to functions, we can also talk about dysfunctions or non-functions, and the functional perspective does not inherently support order; it can as well be radical.[8] Barber says: 'An structural-functional analysis consists of statements about the relationship between or among two or more structural components of a social system. Any such statement can be viewed in at least two regards. First, it can be viewed as a valid or invalid scientific statement, in the measure that it describes parts and connections of the social system as they objectively exist. Secondly, such a statement can be viewed as having ideological consequences, in the measure that someone with a certain set of goals or values may use it to justify maintaining or changing the objectively existing parts and connections. These two aspects of any statement should not be confused. An structural-functional analysis which consists of scientific statement should not be taken gratuitously to imply any ideological commitment, either to maintain or change the existing system.'[9] Since it is basically a method of studying social events, institutions and phenomena in terms of their interrelationships, and their effects on society, it may be applied to raise the following types of questions:

1. In a high mortality society in which technical means to improve mortality are available, what are the functions of high mortality (including infant and child mortality) for the society, or for the social elite?
2. What are the functional alternatives of high mortality, *i.e.*, what can substitute high mortality with respect to its advantages for the society at large or for the social elite?
3. What are the manifest and latent functions, disfunctions and non-functions or migration for *(a)* society, *(b)* social elite, *(c)* the disadvantaged sections, and *(d)* the migrants themselves?
4. What are the functions of high fertility among the rural poor,

for the landlords, or for the urban dwellers?

5. Do some advantages accrue to society – or some strata – from acceptance or non-acceptance of family planning? What are they, and to whom?

The exchange theory is similar to sociology what the cost- benefit approach is to economics. It is a reductionist approach and it assumes that human beings are rational who make efforts to receive rewards and incur costs; they calculate and optimize their social adaptation. 'In choosing between alternative actions, a person will choose that one for which, as perceived by him at the time, the value V, of the result, multiplied by the probability, P, of getting the result, is the greater.'[10] In the past exchange theorists have concentrated on power in social life, values, justice and modes of coordination, *e.g.*, coercion, market, traditions, solidarity, cooperation, etc. The theory assumes that individuals (at micro level) and organizations (at macro level) present themselves in such a form as to optimize their gains; and their behaviour can be understood as a function of rewards. It should, however, be added that due to a property of satiety a behaviour pattern may become less rewarding (in subjective terms) with increasing rewards and the individual/organization may change its behaviour to search other rewards.[11] The theory can take care of a variety of social demographic problems such as marriage, kinship, status of women, assimilation, and selective rationality. It would suggest that mobility and reproductive decisions be analyzed sequentially and one's attitude towards sickness and death be explained in a biographic context.

Coming to the conflict theory, it must be said that most of sociology is divided into two main broad branches: a functionalist branch that rests on some idea of relatedness and equilibrium; and a conflict branch that attempts to reveal the internal contradictions of society as a constant source of change. But none of them is a well defined scheme of analysis. They are rather packages of theoretical schemes to search the causes of order, and historical and social change – both of which characterize a society at any moment of time in history. While functionalism concentrates on the nature of order equilibrium, or interconnections between the different parts of society, the conflict tradition looks for the state and genesis of major contradictions existing in a society and their implications for change. While some theorists emphasize inequality in power as basis of conflict, others emphasize competitive economic struggle, authority or identical social interests. They reject the idea that value consensus is the real basis of social stratification. They claim that the existential social values are always the values of the dominant class. In a society viewed as a stratified whole, social consciousness reflects differences, cooperation and antagonism of the constituent classes. It may be peaceful or violent, caused by internal or external factors – the characteristics of social conflict may vary over time and space – conflict as a condition of society is always present; it may cause social change by pragmatism or piecemeal social engineering on the part of the elite, or it may lead to a radical transformation in structure – which may create new bases of conflict eventually, or a basis for future classlessness. Of late, many social demographers have remarked on population policies and programmes from this angle. They have shown as to how such policies reflect and serve the interests of the ruling elite. Though most conflict theorists have used documentary and statistical methods, yet it follows from their philosophy that social reality is not objective scientific universe of positive philosophers.

Functional and conflict both are sociologistic perspectives in sociology because they focus on social institutions and processes in the light of certain characteristics of larger social systems in which they come into being. Contrary to this, some nominalist sociologists say that society is not real, but only an assembly of individuals; macro-structures, large scale survey data and mathematical models cannot, therefore, help us in understanding the subjective motives with which people act in their life - world. In their opinion, application of the scientific constructs to penetrate human situation can only fail to generate knowledge of the constructs, the social actors make to act and react to their world: man's world is not physical – it is symbolical. In order to interpret a man's action, other modes of knowing, *e.g.*, empathy, sympathetic understanding, documentary method, etc. may be more appropriate than science. Thus for the phenomenologists the main aim of social enquiry is to know the micro-motivational-structures and foundations of common sense knowledge. Collins says:

> 'Social phenomenology emphasizes that immediate observational methods focusing on everyday life are the only valid sociological approaches. The immediate awareness of the sociologist – an extension of that of the phenomenologist – is the necessary and

unavoidable starting point of all analysis; positivistic methods such as surveys, interviews, and use of official statistics are criticized as naively unaware of the cognitive constructions that have already gone into whatever they produce. Quantitative analysis is even more suspect, for it imposes its own structure upon social processes and hides its extraneous nature under the guise.'[12]

Due to their bias for large scale data and scientific models demographers have not taken advantage of this powerful theory which could enrich our understanding of the individual bases of decisions tremendously. Marcov models of statistics can certainly be made to yield transition probabilities of various kinds but it is only a phenomenological method that can reveal the deeper organization of motives and meanings people attach to transition. In fact we require a suitable combination of behaviouristic and phenomenological methods to know and explain human situation. Moreover, the symbolic interaction of self concept, his perception of the responses of others towards him, actual responses of others and his behaviour can refine our understanding of man's dynamic relationship with others, and also perpetuity and existence of social organizations.[13]

Finally, the theories of anomie and alienation which concentrate on social isolation, loss of intrinsic satisfaction, powerlessness, meaningfulness and normlessness in modern societies can be applied to handle variety of research problems in social demography. Determinants and consequences of urban-urban migration, minority status and fertility, poverty and literacy, personality and demographic behaviour, and success and failure of national policies are some areas in which they can contribute to a very great extent. All modern societies are complex; they are characterized by increasing entropy (anomie), and show many socio-psychological consequences of system decay. Entropy analysis, which has come late in sociology, has a substantial potential for use in social demography. Fromm's concept of alienation,[14] and Bailey's theory of entropy and homeostasis[15] need to be applied and tested in studies of social inequality, poverty and their demographic correlates.

Gains to Sociology

Sociology is both relational and transformational. 'That is to say, sociology is concerned with the persistent relations between individuals (and groups), and with the relation between those relations in the context of or view of social actors as reproducing and transforming these persistent structures.'[16] Thus the project of social demography is not limited to description and study of causes of existential demographic patterns, it aims at exploring the role of demographic processes in the process of transformation of social relations. Upto this point we have shown in brief how the different sociological perspectives can be used to raise and solve questions in social demography; we have still to state what sociology gains from supplying its conceptual apparatuses to demography. We feel that sociological theories have so far considered population as an exogenous variable that is taken either as a constant factor, or a factor that affects social order/conflict through one or more endogenous sociological factors. Our knowledge of how population structure and dynamics modify social structure is very poor. On the one hand, there is no dearth of normative and empirical literature on consequences of population growth in developed as well as developing societies. On the other hand, we lack a proper social theory to explain demographic causation of social mechanisms. As late as 1979, the noted unification theorist Cohen did not include population in the causes (theories) of social change.[17] Population dynamics is virtually absent in critical sociology.[18] And Marxism has minified population debate by reducing it to a socio-economic category. Are the causes of this neglect rooted in the very nature of sociological enterprise?

Strasser has three theses regarding sociology: 'The first contends that sociology emerged from the dilemma of political involvement and opposition as well as from a scientific reflection on the problem of how to best organize society. The second point is that the early foundation of an organic and social system perspective has decisively influenced the development of the sociological enterprise in the past. And third, in spite of the overall trend in social theory to be guided by a conservative – *i.e.* social - technological – interest of cognition in general and to be dominated by the structural-functional approach in particular, these conservative outlooks on society always tended to be accompanied and/or challenged by a progressive, radical perspective.'[19] Now since the population policies and family planning programmes, operative in both capitalist and socialist countries, have pullulated ideological neutrality to the dominant political philosophies in our times, sociology has also shown inadvertency to population. But the need for academic understanding of population cannot be overestimated, particularly in the present day developing countries in which consequences of the modern population processes are most significant. This is the time to go deeper into consequences of population growth in these countries; the studies of sociological factors such as culture, social organization, stratification, institutions and change can greatly benefit from a formal treatment of population in relevant theoretical systems.

Researchers have shown that high population growth causes Malthusian trap in the developing countries; it implies heavy dependency of youths, high infant and child mortality, lower saving and investment, and a low per capita income. Thus they have unequivocally favoured population control. Most of the developing countries are now undergoing fertility reduction – caused by population control programmes and socio-economic change. In this context, it should be stressed that drop of fertility can be of problematic consequences too. Rapid fall in fertility can lead to zero or negative rate of population growth, ageing of society, heavy old-age dependency, economic retardation, and sluggishness in human resources development; it may adversely affect social dynamism and vitality of manpower. Hence a solution of population problems can coinstantaneously create new social demographic problems. This is a fact to which social researchers need to pay increasing attention. In a recent article on the failure of theories of social and economic change to explain demographic change Caldwell has suggested that the demographers expand their canvass. He says that 'the measurement of fertility and contraception change is merely confirmation that something more fundamental in the society is also changing.[20] He may be incorrect in reducing demographic transition to mere changeover from familial to non-familial mode of production but his plead for expanding the demographic canvass is genuine.

Reviewing the available studies, McNicoll has presented a general framework to divulge the consequences of population growth. In this framework population growth effects socio-economic changes at systemic and individual levels through the following proximate consequences: size of population, ethnic and migratory composition, age structure, and kin structure. Population- induced changes in individual behaviour affect both systemic factors – economic and political systems and family – and population successively.[21] Hence the true impact of population growth on society is confounded. Social demography can contribute to theory of society by unveiling the hypothesized linkages of the model (Fig. 1.3) .

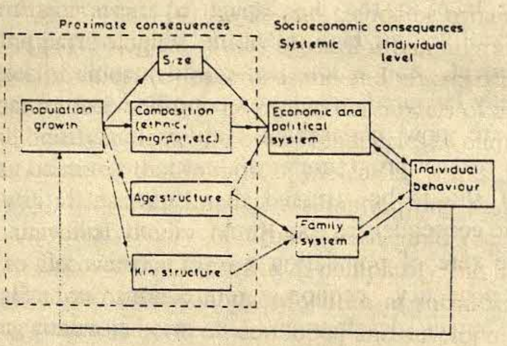

Fig. 1.3: Population growth consequences
Source: Mc Nicoll, Geoffrey, 'Consequences of rapid population growth: An overview and assessment', *Population and development review, 10:2, 1984 p. 179*

Social Demography in India: Some Issues for Future

There was no organized scientific knowledge of population dynamics in India before Independence. Yet a few opinions were expressed about the relationship between population and welfare, and desirability of population control programmes. There was an awareness of demographic consequences of the industrial revolution in Europe, and more especially in north-western Europe. Among others, Nehru knew about falling birth-rates in Europe and he thought that 'huge populations of Asia are a burden and a weakness unless they are properly and productively organized.'[22] Do we know more today that Nehru, after spending millions of man-hours in discovering laws of population in this country, is a big question. He wrote:

> 'What is the cause of this widespread phenomenon of falling birth-rates? The increasing use of contraceptives and the desire to have small regulated families may have produced some effects, but it is generally recognized that this has not made any great difference. In Ireland, which is a catholic country and where contraceptives are presumably little used, a fall in the birth-rate started earlier than in other countries. Probably the increasing postponement of marriages in the west is one of the causes. Economic factors may have some influence but even that is hardly an important consideration. It is well known that as a rule fertility is higher among the poor than among the rich, as it is also higher in rural areas than in urban. A smaller group can maintain higher standards, and the growth of individualism lessens the importance of the group and the race.'[23]

Initially, what India had as a source of population data was census which was conducted in 1871 for the first time and at decadal uninterruptedly after that. Census produced data on size, growth and structure of India's population. In post-Independence India, therefore, the initial works on population were of the nature of computing the various rates and ratios pertaining to demographic processes from census, with the help of stable – and other analytical – population theories. The chief theoretical problem that the early demographers faced was how could they model population processes at societal level: there was a lack of contextual thinking, and due to incomplete knowledge of socio-economic determinants and consequences of population in India they looked out for theoretical constructions. And they were supplied the demographic transition theory by the Western mentors. The theory said that *(a)* there is the same demographic experience of all the developed countries for which reasonably good data existed to study their past, and *(b)* this experience may be stated in the form of a universal theory. According to this theory: *(a)* there are many structural similarities between the less developed and the pre-modern European countries; *(b)* birth and death rates decline from a definite high level to a definite low level in response to socio-economic development; *(c)* reduction in mortality precedes reduction in fertility; and *(d)* the onset of fertility reduction in less developed countries will be marked by attainment of the threshold values of life-expectancy and several developmental factors. In other words, the future of the less developed countries will reproduce the Western history.

Subsequently, under the influence of the demographic transition theory, larger data on population dynamics were obtained through National Sample Survey Scheme (NSS), Sample Registration Scheme (SRS), other national and regional population surveys, and department of health and family planning. But since the theoretical assumptions did not change, basically the same questions persist in demographic circle.[24] They are as follows:

1. What are the true rates of fertility, mortality and migration in India at national and the various sub-national levels? Do they indicate transition?
2. Are there significant differentials in the above rates with respect to proxy indicators of development – demographic, social, economic and residential? Are they widening?
3. What is the status of intermediate determinants of fertility (in particular of age at marriage and family planning acceptance)? What part of variance of fertility do they explain?

The demographic transition theory that rescued Indian social demographers from intellectual vacuum (want of an appropriate interpretative framework), colonised their mind simultaneously. The theory was accepted not because data confirmed it but because it was presented as a universal and unmitigated statement of demographic change. This theory was not subjected to empirical test, rather it created the very conditions of empirical investigation in India. In this situation the internal contradictions of society as well as international political economy and its implications did not find a place in population theory; the statistical relationships between social factors such as caste, status, urban-rural residence and religion on one hand, and fertility on the other were explained in simple diffusionist perspective and the cross-sectional correlations were presented as longitudinal laws of population.

Many researches in India and other ex-colonial countries have contradicted demographic transition theory. Today, when the mechanisms of fertility and mortality decline are better understood, there is greater recognition of role of structural contradictions, political institutions and cultural factors in theory and in intervention in population dynamics. Migration and urbanization are becoming very attractive areas of social research. It has been stressed that in spite of horizontal expansion of cities and towns covering the different parts of the country urbanization policy in India has not eliminated interspatial and socio-economic disparities. In British India the urban-rural nexus developed in an imperialistic context and cities served interests of an alien power; the metropolitan sector exploited the urban sector and the urban sector exploited the hinterland. Independence has not changed the fundamental nature of the urban-rural relationship; the newly built urban areas, which received great investment, serve mainly the metropolitan economy. There is no functional and synergistic link.[25] In this context we propose the following population issues for the future:

1. International relations and population in the less developed – *i.e.*, ex-colonial – countries
2. Social stratification and population
3. Values, motivation and demographic behaviour
4. Power structure and population programmes
5. Population and social transformation
6. Critical assessment of population ideologies, which come from the social elite, and their utopian criticisms.

In this book an attempt is made to discuss old problems of social demography in the new perspective. The purpose of the book is two-fold: *(a)* to sensitize the readers to sociological dimensions of the demographic processes to a greater extent than it has been done in past; and *(b)* to provide up-to-date knowledge of demographic processes in India. Chapter 2 of this book presents a comparative study of Bogue and Sorokin. First, it states the internal problems of social demography and, then, it restates them in a synthetic sociological perspective. This shows the gaps in sociological understanding of social demography and comments on the philosophy of work in this area. Chapter 3 provides a critical description of the methods and procedures of social demography. Research method are not neutral to researchers' conceptual plans and change in perspective will unavoidably lead to reformulation of the problems and reconstruction of tools and techniques of reflection. This chapter, therefore, gives an idea of what may be done in the light of new questions raised in the preceding chapter. It shows the usefulness and the limits of quantitative and qualitative methods and prepares a case for combination of methods. Chapter 4 gives a data-based picture of structure and history of India's population, and their implications. It may be said that the greatest existential problem of Indian social demographic structure is inequality – that compels little less than half of the Indian population to live in a culture of poverty. The next chapter (Chapter 5), therefore, concentrates at the relationship between poverty and population. It presents two models of family planning acceptance which, in our opinion, should *(a)* explain the present level of birth-control practices; and *(b)* guide future planning. Simultaneously, it attempts to unveil morphogenesis of Indian poverty and a critical commentary on the policies and programmes to alleviate poverty. Chapter 6 identifies some major structural issues in population management, *i.e.*, the aspects of traditional management theory, contemporary conceptual models and the existentially appropriate parameters of the modelling. In the qaend, Chapter 7 is devoted to urbanization and migration. It exhibits the difficulties, we encounter, in defining, measuring and theoretically approaching social demographic processes such as urbanization and migration. It also furnishes with the demographic picture of urbanization and migration in India, brings out the considerations of urban policies, and suggests ways of solving urban crisis in typical conditions of our country.

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TWO

Social Demography and Sociology of Social Demography : A Comparative Study of Bogue and Sorokin

There are practically two main approaches to study population – one, demographic, and the other, sociological. The first approach is to view population changes as autonomous – or at least semiautonomous, *i.e.*, determined partly by population processes themselves and partly by changes in their social environment.The assumption here is that though the demographic changes are linked to social changes, yet they are not completely dependent on or explainable by them. The second approach considers population changes as part of some deep rooted social structural changes, and, therefore, it stresses the unfolding of hidden social changes to theorize about population adequately. In India, for the reasons mentioned in the previous chapter, the demographers have used mainly the demographic approach to study demographic changes. In order to claim a scientific status (that is, an elite status in stratified world of knowledge), and influenced by demographic transition theory, they incinerated whole pre-mathematical wisdom, quantified the demographic system, studied the problems mostly at the macro-level, had a monolithic conception of social reality, and abstracted demography from concrete socio-cultural factors. They have undoubtedly shown results. They developed sophisticated methodologies of measurement and estimation, and produced massive data on population; they improved upon the existing methods of correlational analysis. But their project seems to be failing to bring about consensus (which is a hallmark of science) and social interpretation of social demographic phenomena. They did not recognize proximity of social structure, and tried to look for answers to their problems in refinement of data, methods and analytical procedures. Consequently, the population research in India suffers from obsessive quantification, sterility and boredom. As a matter of fact the demographers are victims of a kind of clearly wrong optimism that is not rooted in their philosophy of work: they conduct new experiments without asking themselves why the previous experiments have failed to yield right theory. In this milieu, there is a need to philosophize the whole question and look at social demography from an increasingly sociological angle. Do we gain, if we study demography from a sociologist's perspective, rather than from a demographer's perspective? In order to answer this question we are doing a comparative study of Bogue who is a demographer, and Sorokin who is a modern sociologist belonging to the 'synthesis' school. The question about adequacy of 'method' will be raised in the following chapter.

Bogue is a demographer of international stature and his book *Principles of Demography* exhibits an insider's approach to the demographic endeavour. Bogue has worked in all major areas of population. He has influenced many of the demographic analysts. He is conscious of the wide variety of milieus which affect interplay of demographic factors. In *Principles of Demography* he has included all relevant dimensions of population and their social correlates, and bound them in a common framework. We will, firstly, present the ideas of Bogue which are contained in this book and, secondly, contrast them with Sorokin's sociological thoughts. Incidentally, Sorokin is one of the few sociologists who deal with population issues. Moreover, he has critically examined all important sociological theories and arrived at his own conclusions. Our choice of Bogue and Sorokin may be biased but that, in our view, will not distort the point we wish to make in favour of sociologistic demography.

D. J. Bogue

According to Bogue, demography may be defined as a field of empirical, statistical and mathematical study of the following three human phenomena: (*a*) changes – growth or decline – in population size; (*b*) composition of population; and (*c*) the spatial distribution of population. Demography studies their statics and dynamics and seeks their explanations. Since the growth, composition and spatial distribution of population depend on trends in marriages, births, deaths and social and geographical mobility, demography is defined precisely as 'the statistical and mathematical study of the size, composition and spatial distribution of human populations, and of changes over time in these aspects through the operation of the five processes of fertility, mortality, marriage, migration, and social mobility. Although it maintains a continuous descriptive comparative analysis of trends, in each of these processes and in their net results, its long run goal is to develop a body of theory to explain the events, that it charts and compares.'[1] In Bogue's view, the relationship between demography and social sciences is reciprocal: demographic factors are used by economists, political scientists and other social scientists to explain and predict events in their respective fields of enquiry; and the demographers, in turn, construct their theories in terms of the variables and theories obtained from other social sciences. Bogue says that 'demographic theory is an organized synthesis of inferences and principles extracted from economics, sociology, social psychology, psychiatry, political science, anthropology and geography.'[2] But though he recognizes that the demographers 'owe a professional obligation to other branches of social science to undertake intensive studies of special topics,'[3] he is not very sensitive to the problem of perspectives in sociology: he seems to convey the idea that the aspects of population such as growth, composition, and distribution be understood mainly in demographic terms, and in empirical framework of development theory which looks at transition as a simple changeover from pre-modern to modern developed state.

There are two main methods in social demography. They are comparative and historical methods. The former method concentrates on the study of the differentials in the levels of demographic phenomena between populations or their segments, and the latter on the trends over time. Demographers construct a variety of rates and ratios to measure the characteristics and processes of population: (*a*) crude rates which relate frequencies of the events to the total population; (*b*) specific rates which relate frequencies of the events in the subpopulations to the sizes of these subpopulations; and (*c*) the standardized rates which free the crude rates from the effects of population composition – they can be computed by relating specific rates of two or more populations to the composition of one of these populations, or to that of an assumed standard population, *i.e.*, one having a standard composition. These rates may be used in synchronic as well as diachronic studies. While the synchronic studies attempt to show the cross-sectional patterns at a point of time, the diachronic studies explain the temporal changes in the study rates in terms of the concurrent changes in the relevant socio-economic factors.

It has been shown that though the demographic processes are quite dynamic, their internal structures maintain a high degree of constancy; with reference to both fertility and mortality the different indices of the processes are found to be highly correlated among themselves. Therefore, regression technique can be used with very great power to estimate other indices of a process if any one index is known.[4] One of the major technical achievements of demographers is the construction of 'life table' that shows (*a*) changes of dying, (*b*) changes of survival, (*c*) mortality rates, (*d*) number of survivors in a hypothetical birth cohort, (*e*) person - years lived, and (*f*) expectation of life – by age in single years, or in appropriate groupings. Knowledge of any of these columns is sufficient to construct complete life table.

There are three main sources of demographic data: population censuses, which are taken periodically in most countries; registers of births, deaths, marriages and divorces, and migration; and national and subnational sample surveys, which are conduced to obtain more frequent in-depth data than that are available from the censuses and population registers. In addition, demographers have 'usable demographic information' from records that are kept for military, planning, administrative and welfare purposes.[5] According to Bogue, this large inventory of data, and the statistical methods developed by the demographers for analysis of population data, have given a more scientific status to demography than that can be granted to other social sciences. Demographers can compute rates of population events and indices of population characteristics, and compare them – after standardizing them for the other possible influences. They have also developed analytical tools and mathematical growth models to study growth and other characteristics of population.

Let us now state the demographic problem in the modern world as seen by Bogue. He says: 'A disproportionate share of the current population growth in the world is concentrated in the poorer regions and is inundating them just as they are making a major effort to improve their economic condition. Thus not only is the world growing at an explosive pace, but its growth is concentrated in exactly those spots where it can be afforded least (from the point of view of reducing world fertility and raising levels of living).'[6] The theory of population says that society tends to minimize its death rate under the given technological state, and readjust its birth rate, so that the vital processes remain in a state of balance. But reaching a new equilibrium through fertility regulation takes some time; there is always some time gap between mortality decline and the new demographic balance that society consequently achieves. This lag causes rapid population growth. Hence the demographers are concerned about the process and response time of the adjustment of fertility to reduced mortality. It has been suggested that while mortality reduction is largely a techno-economic problem, fertility reduction depends on changes in collective norms which end the usefulness of high family size to the parents. Normally, the process of fertility reduction consists of several steps. Firstly, there has to be a perception of fall in death rate leading to increase in family size. Secondly, the couples should perceive that the implications of such change are undesirable. And thirdly, there should be availability and diffusion of socially accepted methods of contraception. Greater is the time that these changes take, lengthier will be the period of transition, *i.e.*, the period of disparity between birth and death rates; the amount of population growth in a society is determined by the length and quantum of this disparity.

Achieving a new equilibrium of vital rates, once it is disturbed by fall in death rate, is a complex process. It requires the following two attitudinal changes on the part of each couple: (*a*) first, the couples reduce the ideal (desired) family size; and (*b*) secondly, they conform this new norm of family size. And this whole process of 'double change' may be accelerated or decelerated by several contextual factors such as active resistance, cultural or bureaucratic inertia, 'the intensity and the degree of uniformity of the old fertility attitudes and the extent of communication, discussion, and social consensus.'[7] Bogue maintains that due to impact of the modern demographic science, modern methods of communication, lowered resistance to change, effective and acceptable techniques of birth control (which are available now), and institutional support for family planning, 'such a change can be accomplished today in much shorter time than in any previous period.'[8] He envisaged that 'modern man is able to foresee demographic catestrophe long before it arrives and takes adaptive action long before it is placed on him by the true force of nature.'

Bogue has constructed an index of the progress of a population in making transition from high to low fertility. Conceptually, this may be expressed as percentage progress made by an index of fertility in the direction of reaching the post-transitional level. In actual computation of this index, two different indices of fertility are considered and the percentage progress is calculated by taking average of the progresses shown by these indices. In notations, the percentage demographic transition completed may be expressed as follows:

$$PCT-DEM-TRANS-COMP = \frac{1}{2}\left(\frac{235-GFR}{175}+\frac{7500-TFR}{5300}\right)\times 100$$

Here GFR is the general fertility rate which is defined as the number of births that occur in a year per 1,000 women of childbearing age. Its values before and after the demographic transition are observed to be around 235 and 60. TFR is the total fertility rate which is an analytical concept and it estimates the average number of children that a cohort of 1000 women would bear if they undergo a given schedule of fertility during their complete reproductive period under the condition that none of them dies before reaching the end of the reproductive span – the fertility schedule is a set of age-specific-fertility-rates, *i.e.*, the ratios of births to women in the different age groups. TFR is likely to decline from a high value of 7,500 before transition to a low value of 2,200 after the transition. Thus the GFR travels a range of 175, and the TFR of 5300. The logic of including two indices in the formula is that 'because we are not certain of our data and the estimating process is only approximate, we can accept a single average of the two answers as our best estimate of what percentage of the demographic transition has been completed.'[9]

In order to unearth the causes and correlates of the demographic transition, Bogue used the graphical and the statistical methods. He picked a variety of indices of social progress such as percent urban, percent of population illiterate, percent of population in agriculture, per capita gross domestic product, infant mortality rate, percent educated at level 1 or higher, percent in school, median age at marriage, and expectation of life at birth, computed their values, and correlated them with the percentage of demographic transition completed. Further, he prepared a set of scatter-grams in which he plotted the percentage completion of demographic transition against the following indicators of socio-economic development: percent urban, percent of population illiterate, percent of labour force in agriculture, per capita gross domestic product, infant mortality rate, expectation of life at birth, percent of male population with first-level education, and net food supplies per capita. In this way he arrived at a conclusion that 'there is an unmistakable relationship' between the socio-economic progress and demographic transition but this relationship is 'far from perfect.' It was also observed that 'rising educational levels, increased school attendance, and elimination of early marriage are much more powerful in promoting fertility reduction than simple urbanization and rising levels of living. A major driving force behind fertility control appears to be education.'[10]

In all the population theories, proposed by Bogue, including his theory of mobility, stress on order is very clear. They suggest that whenever economic processes disrupt the demographic equilibrium, society attempts to restore it by bringing about some internal changes in its population subsystem. In this perspective, just as fertility transition helps achieving a new order which was destroyed by gain in life expectancy, migration contributes to balancing of socio-economic conditions in different parts of society. The assumption is that by nature 'human organism tends to remain at rest.' And people migrate either in search of an opportunity to improve their lot in life, or to fly from undesirable social and economic situations. Push-pull theory is, therefore, an appropriate framework to explain migration. The migrants are those who are either pushed from the centre of origin, or pulled by the centre of destination, by a variety of factors affecting their lives. At the micro-level they exhibit a subjective response to 'subjectively perceived and subjectively interpreted socio-economic environments.' But in this perspective subjectivity can easily be understood in objective contextual terms which are the subjects of study. Bogue has enumerated several possible push-pull factors which may cause migration. He has discussed ways of quantifying migration and its patterns – by computing many rates and ratios – and relating them, finally, to socio-economic changes. He concludes:

'internal migration seems to be guided by the heavy hand of differential economic conditions.' Economic expansion and new job opportunities are highly concentrated in metropolitan areas – all over the world. So long as this persists – and there is strong evidence that it will – we can look forward to sustained urbanization and metropolitanization of the population of each nation. Even the developing nations with fantastically large populations, such as India, China, Pakistan, and Indonesia, must anticipate large-scale movements off the land and into the cities.'[11]

Bogue has included studies of social mobility also in demography proper. His reason for doing this is twofold. Firstly, the study of social mobility deals with population variables. Secondly, much of the work in this area is done by the demographers. Coming to the problems of theorizing social mobility, Bogue has identified two major theoretical approaches and measures. He says that the conventional approach defines social mobility on occupational lines, *i.e.*, in terms of changes in occupational structure at the societal level, and that in occupational status at the individual level. This approach is no more suited to 'ideal' measurement of social stratification in contemporary society in which the occupational system has been weakened by technological advances, greater democratization, increase in the number of occupations, and emergence of uniformity in their gradation. In order to examine social mobility in the contemporary world, the socio-economic achievement should therefore substitute for the occupational criterion. And for this purpose a unitary index may be constructed on the bases of the following four components: (*a*) livelihood (economic) status; (*b*) general cultural-technical status, *i.e.*, a plane of intellectual life and participation in modern social and cultural life; (*c*) unique cultural traits, interests, and pattern of life of members of the individual strata; and (*d*) prestige, esteem, respect, or power. Bogue maintains that they may be measured appropriately by a combination of education and income, and the resulting status measures are robust – they are little influenced by the weights which are attached to education and income in this combination. Lastly, to resolve the problem that education and income are expressed in two different units, one of them has to be measured in terms of the units of the other. Preferably, education may be measured in money, and 'this is accomplished by converting educational attainment into its average income-producing equivalent.[12] In contemporary societies, occupations waste much valuable information and 'it is more efficient and meaningful to go directly to the components which are functional measures of social status.'

Bogue has studied the other demographic processes and structures also, including nuptiality and population characteristics, the same way as fertility, migration and social mobility: he constructs indices to measure the study variables, relates them to indices of development, and explains the emerging statistical relationships in a functional perspective. It may be said that the man behind his theory is a rational, calculative and profit-maximizer man – he values several things but he attaches the highest priority to the economic development. In his opinion, there is generally no conflict between private and social points of view: an event or a thing that promotes balance at the societal level is one that promotes welfare at the micro-level too. This is probably the reason why the Bogue's theory does not consider subjective perceptions in particular – if there is no real difference between the subjective individual and the objective social world, everything about the former can be known from sheer empiric investigation of the latter. Moreover, if the macro-and the micro-level processes are identical, the structural indicators of social reality may be developed to substitute for the phenomenological ideal types as well as ethno-methodological representations.

P. A. Sorokin

Sorokin is one of the very few theoretical sociologists who have paid attention to population. He examined theories and data on population which were available to him, as early as 1927, and discussed correlations between the social and the demographic factors. Before him, Coste had given a theory that social evolution should be explained on the basis of population concentration. Coste was of the opinion that human society progressed due to increase in its size and density, and social power of a society depends on population concentration, *i.e.*, on the ratio of population that lives in cities. Sorokin's work on population begins with a critique of this theory, which, in his view, remained uncorroborated by Coste.[13]

According to Sorokin, the rate of population growth is a function of the size and the density of population. When population size and density increase birth rate may decrease. And, at the same time, due to overcrowding and poverty, caused by the growth of population, death rate may increase. Both these factors lead to reduction in the growth rate of population. Finally, as population reaches a point of saturation, it moves closer to stagnation. Subsequently, when a new invention – or an areal expansion of the habitat – reduces the density of population, the growth may start again, and follow a new growth cycle; again beyond a point growth slows down, either by increase in mortality, or decrease in fertility, or by both ways. Thus he favoured the logistic law of population growth *vis-a-vis* the Malthus's law. Further, he said: 'This, however, does not mean that the law is sufficient to account for all the fluctuations in the growth of a population, or that it gives a certain basis for predicting the future trend and size of a definite population, or that it even quite satisfactorily explains the changes in the movement of the vital processes.'[14] Sorokin asserted that logistic law was only an empirical formula – and several such formulae, which fit a population, can be given. Moreover, this empirical formula is valid only if the existing and potential resources, for the support of population, are constant. He pointed out that the formula yielded discrepancy between the actual and the estimated population; in many European countries birth rates were declining despite the differences in their developmental levels and situations on the logistic tracks.

Sorokin made two propositions about the relationship between the size and density of a population, and migration: (*a*) increase in population density is positively associated with emigration, and decrease in population density is followed by a parallel decrease in emigration or immigration; and (*b*) people move from the areas of a more rapidly increasing population to the areas of less rapidly increasing population. It should, however, be mentioned that though population growth produces migration, yet migration is not always the only outcome of population growth – an increase in population density may be followed by inventions, war, migration, reduction in the birth rate, or increase in the death rate; and all these 'consequences of population growth' may be caused by many other non-demographic factors too. As a result of this, the correlation between population growth and migration is tangible but it is not high.[15]

Sorokin surveyed the theoretical as well as the empirical works on the following consequences of population growth: war, revolution, forms of ownership and possession, economic prosperity, social differentiation, stratification and segregation, family organization, forms of political and social institutions, inventions and creativity, mores and customs, evolution of language, religion, mysticism and fetishism, equalitarian ideology, and the progress and decay of societies. He concluded that 'if we cannot say that all these attempts have been successful, or quite accurate, we have to admit that a considerable number of them are likely to be accurate, at least in part; and some of them are as near to reality as it is possible to arrive in the present stage of social science.'[16] This shows his awareness of the population trends in his times as well as of their socio-economic and political implications. But he did not seem to favour the birth control programmes in particular. The reason was that according to his thoughts such programmes and policies could lead to people's decay by making it possible for all innate weaklings to survive[17] – which may not be possible in absence of family planning programmes and resistance to population growth.

However, as mentioned earlier, we are not as much interested in Sorokin's theory of population (important though this is) as in the conceptual apparatus he uses to arrive at a theory. Sorokin is very critical of the modern trend of quantification in sociology and psychology. He noted with dissatisfaction that the present day psychosocial research has become highly mechanical; it lacks in serious, intuitive, and incisive rational thought, and it, therefore, yields sterility and error. He said that though mathematical and statistical methods can potentially render high services to knowledge, when they are used competently, in investigation of phenomena that lend themselves to such analysis, their actual value is diminished largely by a 'quantophrenic' misuse and abuse of these methods – leading to 'subjective and evanescent hearsay trivia.' The net creative results of such researches is disappointing. Their practitioners have continued to use previous conceptual frameworks and theories – either in the original or in a diluted form – and they have not created a new framework in their areas; many of them have made only an eclectic hash of some of the existing theories. Consequently, the recent period has not made any remarkable contribution in the area of general systems of sociology and psychology. It has only given the correlations which are quite discordant (and often contradictory), old patterns of uniformities, old research methods and techniques, and very poor scientific standards. 'They do not benefit our understanding of psychosocial phenomena; nor are they graced by a penetrating insight in the mysteries of the psychosocial cosmos and of its central being – human personality; nor do they furnish us with a set of principles on which we can build the temple of knowledge of social and psychological phenomena; nor are they entertaining and enjoyable as artistic masterpieces.'[18]

Sorokin has the 'integralist' conception of reality, knowledge and ways of cognition. According to this conception there are three different aspects of a complex psychosocial reality – sensory, rational, and supersensory – superrational. The channel of sensory perception – observation – is suited only for cognition of sensory aspect; the rational aspect should be apprehended by the rational system of logic and mathematics; and the supersensory - superrational aspect by the intuition. And it is a combined knowledge of the three aspects of the reality that provides the fuller and more accurate understanding of the subject matter. Moreover, if one applies the integralist conception and uses the triple systems of comprehension, the knowledge obtained through anyone of the three methods, *i.e.*, observations, reasoning and intuition, can be checked by the knowledge obtained through the other two methods. The empirical method of cognition can produce results (as it did in the beginning) only with the help of the logical and the mathematical methods. But if the empirical method is separated from rational channel, it becomes less creative. Today, there is a need for recreating sociology and that demands again a unification of the three channels of knowing.[19]

Sorokin believes that in history civilizations exhibit the cyclical changes. In the past, cultural supersystems – which represent the basic meaning, values and norms of integrated and consistently united scientific, philosophical, religious, aesthetic, juridical, ethical and technological systems – as well as personality systems have passed through the three distinct phases in cycles; these phases were ideational, idealistic and sensate in succession. He suggested that the studies of culture, society and personality should be conducted in the framework of the civilizational changes because they all are conditioned by the characteristics of the phases in which they are situated. And it is the characteristics of the supersystems, and the personality that they produce, which alone can explain the social processes in their entirety and proper perspective. Evidently, Sorokin affirms that the project of sociology cannot be executed without the help of psychology and philosophy.

TABLE 2.1: **Characteristics of Sensate and Ideational Cultures**

Sensate Culture	*Ideational Culture*
1. Contractual relationship	Familistic and partly compulsory relationship
2. Secular government	Theocratic government
3. Notable improvement in the material standards of living	A stationary level of economic well being, or its moderate decline
4. Sensate freedom	Liberty
5. Financial and business leadership, economic organization, sensate politics, technology, science and arts	Religious leadership
6. Secular bases of economic and material interests	Religious bases of wars, revolutions and social movements
7. Most rapid socio-cultural change	Slowest socio-cultural change
8. More marked and chaotic social mobility	Least social mobility
9. More open social classes	Closed multibonded groups (caste and estates)
10. Utilitarian and hedonistic ethics, leading to relativistic and conditional nature of ethical and legal values of the system — might is right	Objective and universal criteria, absolute and transcendental values

The three supersystems, mentioned above, can be distinguished on the basis of the major premise concerning the ultimate reality and value. The sensate supersystem, which has dominated the (Western) civilization in the last few hundred years, has given the philosophy that the 'true reality and the true value is sensory.' On the other hand, the ideational premise is that 'the true reality and true value is the super-sensory, super-rational God, the sensory reality and value being either a mere illusion, or the least important, least real, sometimes even negative reality and value.' And the idealistic supersystem occupies an intermediate position between the sensate and the ideational systems. Accordingly 'the true reality and value is partly sensory, partly rational, partly supersensory and superrational infinite manifold.'[20] In the sensate stage the dominant method of understanding the world and the social phenomena is positivistic; the dominant techniques of the investigation are naturalistic, scientific, mechanistic, operational, instrumental or quantitative. This state is dominated by the progressively linear theories of change. Contrary to this, in predominantly ideational cultures a variety of 'non-mechanistic but divinely guided, cyclical or eschatological or trendlessly undulating philosophies of history' tend to dominate.[21] Table 2.1 shows the chief characteristics of the contemporary sensate culture *vis-a-vis* the characteristics of the ideational culture. Sorokin envisaged that the phenomenon of the present day social crisis in the West is produced by the transition from the sensate culture to the ideational, and the failure of the assumptions of sensate culture. In the transition period, theories of maladjustment prescribe true ways of stopping the crisis but they can merely produce minor improvements.[22]

Reflecting on the process of fertility transition, Sorokin said that fertility reduction (in the West) is associated with decline in corresponding society and culture: the modern family has become small because it has sacrificed all educational, moral, economic and recreational functions, and is in decay. But the smallness of family cannot solve the crisis; fertility reduction will rather create new problems for society and man. Same thing can be said about political, economic and other organizations of the dying sensate culture[23] that the attempts to solve the internal crises of the culture will only present new problems. Needless to say, different societies have not moved towards sensate civilization simultaneously nor are they facing a common crisis of decay of sensate system. Thus the cyclical civilizational explanations of occurrence of a phenomenon in different societies will not be necessarily identical. 'The most general pattern of the socio-cultural change is that of incessantly varying recurrent processes.' To put it differently, the dialectical nature of history manifests in its ever and never repetitions: the history repeats itself, but when it repeats the cycles are never identical; each cycle is a new variation of the earlier cycles.[24]

Sorokin claims that socio-cultural reality is multi-dimensional and the variety of theories of socio-cultural processes are basically complementary, and not mutually exclusive or contradictory.[25] He says: 'An explanation of the important structural properties of the whole system as well as those of its essential parts, and an explanation of its "physiological" (repeated) processes as well as of the phases through which the system passes in its life course – its rhythms, periodicities, and other changes – has to be sought, first of all, in the system itself, in its "immanent" potentialities and the self-direction of its life-functions, in the nature of its components of meanings - values - norms, in its "vehicles and material conserves", and in its human members and their relationships to one another; second, in the relationships of the system to other systems of which it is a subsystem or a larger system; and third, in the total subcultural environment of the system. Residual problems may be "explained" now and then by the biophysical milieu of the system and by the interference of some extraordinary – unforeseen and unpredictable – factors, forces, and events of the socio-cultural and biophysical universe.'[26]

Since culture and personality are closely linked, the sensate, the ideational and the idealistic cultures exhibit the sensate, the ideational and the idealistic personalities. The sensate man is characterized by conception of sensory reality as true, and value, expansion of material needs, concern for modification of the external empirical environment to satisfy his needs, extroversion, belief in progress, relativistic norms, hedonism, utilitarianism and disbelief in God. The ideational personality of pre-sensate man was just opposite of the modern sensate type. The ideational man can be characterized by conception of supersensory and superrational God as true reality and value; a belief that sensory reality is illusory; asceticism; preoccupation with inner, mystical, supersensory and superrational world; introversion; and little interest in externalistic reforms. The idealistic type is intermediary; the idealistic man attempts to combine 'the noblest traits of the sensate personality and the less extreme characteristics of the ideational type.' There may also be an eclectic personality – that is, unintegrated, inconsistent and heterogeneous – which may be characterized by the unintegrated ideological and behavioural cultures. It may be noted that the relationship between culture and personality is not perfect. All personality types can be found in all cultures. For example, the eclectic men are found in all cultures; their behaviour is largely incidental. They may ultimately disintegrate or experience 'a recession to nihilism, skepticism, cynicism, or even animalism.'[27] In addition, it may be stated that the individual has not one empirical soul, or self, or ego, but several; one biological ego, and several egos;

the different social groups and strata, with which an individual is connected, produce their respective egos. The relationships among these egos reflect the relationships among the social groups from which they spring. Hence if some of these groups are antagonistic to each other, the egos that represent these groups in an individual will also be antagonistic.[28]

Sorokin has written on many aspects of social stratification. He says that the existence of social stratification, *i.e.*, differentiation of population into 'hierarchically superposed classes' – based on unequal distribution of rights and privileges, duties and responsibilities, social values and privations, social power and influences among the members of a society – can be attributed to the innate differences of individuals and the differences in their environment.[29] Commenting on the nature of interactions among the classes in a stratified society, he states that cultural elements move in both directions – from the upper classes toward the lower classes as well as from the lower classes toward the upper – the efficiency and the character of the two streams may be quite different. Normally, the stream that emanates from the superior centres and moves toward the relatively inferior ones, carries the finished objects; and the counterstream carries the raw and unfinished objects. But the periods of crises may transpose the contents of a stream and the counterstream. Sorokin believes in diffusion – and time-lag – theories of social change: since the new cultural values are created and adopted earlier by the upper-urban-civilized centres than the lower-rural-less civilized, diffusion of new values among the latter is marked by a time-lag, which depends on the following five factors:

1. Exposure and context
2. Nature of migratory cultural phenomenon
3. Degree of special qualification, training and skill necessary to apprehend the circulating cultural system
4. The nature of the culture of penetration and diffusion
5. Presence or absence of force.

In the process of diffusion, the cultural objects are not always transmitted in an unadulterated form; they may undergo alterations and transformations: 'the more complex, refined, intricate the cultural system is and the greater ability, qualification, and training it requires for its adequate understanding and use, the more profoundly it transform in the process of its passage from culture A to B, and in that of its infiltration and incorporation into B.' Lastly, the diffusion of culture is a gradual process: the cultural objects do not move directly from the highest strata to the lowest; they move downward to the closest social strata in steps, and their circulation is associated negatively with the height and rigidity of social stratification, and positively with social mobility.[30]

Major Implications of the Comparison

The foregoing brief exposition of the thoughts and perspectives of Bogue and Sorokin reveals that there are many similarities between the two sociologists. Firstly, both of them believe that human societies pass through some recurrent phases, though recurrence does not mean that social evolution exhibits completely identical phases in history. Secondly, many structural properties of society, including the population dynamics, can be explained quite adequately contextually, *i.e.*, in terms of the phaseal characteristics. For Sorokin, even the modes of explanation can be related to the phasic consciousness and the phasic conceptions of man. For example, the fall of psycho-social research, and its preoccupation with trivia, may be due to the sensate culture of our times and its negativistic interpretations of man and of the social and cultural phenomena. Thirdly, according to both Bogue and Sorokin, population growth is determined directly by the demographic factors, but more fundamentally by the socio-economic and cultural factors. Therefore a true theory of population entails a deep analysis of the contemporary social and cultural dynamics. At the same time, the social demographers should see that they are dealing with a problem of mutual causation and not with a problem of unidirectional causation: if population growth depends on the social and cultural dynamics, many elements of the latter also exhibit consequences of the population processes. Thus the real task of the social demography, viewed in this light, is to study demographic situation as a creative part of the larger social reality; it does not end with an attempted social explanation of the mechanisms of demographic regulation. Fourthly, in both the frameworks population processes may be envisaged as the mechanisms of readjustment in a maladjusted social structure. And lastly, the fact that the quantitative methods can be highly useful aids in the social demographic enquiry has been accepted by both Bogue and Sorokin. But, despite the above mentioned similarities, there are some very vital differences between the approaches of Bogue and Sorokin; these differences are much more revealing and much more fundamental than the seeming resemblance between the two. Table 2.2 summarizes our assessment of their fundamental dissimilarities. The table shows that the dissimilarities are not simply due to differences in emphasis; rather there are some very crucial substantive, philosophical and technical differences between the two approaches. A social demographer who adopts one of the two approaches, therefore, in pursuing his investigation, has already taken a decision – in full awareness, or in ignorance. The table may help him in introspection as well as in evaluating his own premises.

TABLE 2.2: **Basic Dissimilarities between the Social Demographic Perspective of Bogue and Sorokin**

Item	*Bogue*	*Sorokin*
1. Major Problem:	Demographic transition and other demographic processes	Population as part of the larger social and cultural dynamics
2. Theoretical framework:	Functional	Synthetic framework with stress on phasic understanding of supercultural systems
3. Method:	Quantitative method	Integral method, *i.e.*, a combination of empirical, logico-mathematical and intuitive methods
4. Basis of social stratification and dominant direction of diffusion:	Income and education, both measured in terms of money	Urban-rural and civility – or level of civilization
5. Level of analysis:	Society	Multi-level
6. Structural relations:	Universalistic	Phasic and systemic
7. Function of the completion of the demographic transition:	Completes the process of adjustment	Creates new problems

The World Fertility Survey (WFS) data have shown that the socio-demographic relationships are not universal. Contrary to this, their strength and direction depend on the systemic factors. For example, the analysis of the WFS data reveal the relationship between education and fertility is monotonic negative for the majority of countries, curvilinear for some, and positive for a few others. Moreover, among the countries which show negative relationship, there are differences in the threshold levels at which the suppressing effect is first observed. The same thing can be said about the effects of other socio-economic factors and sex preference on fertility. The WFS has established that the ill-understood cultural factors play greater part in fertility transition than the 'objectively ascertainable development factors.'[31] Freedman says that the conventional reliance on socio-economic variables in analysis of the determinants of fertility has proved weak and they did not have the 'expected consistent explanatory power.'[32] Conclusion of the WFS applies much more to national and subnational surveys – most of them have failed to yield valid substantive knowledge of the causes and conditions of the demographic transition. Where does, then, the problem lie? Do we need to repeat such surveys more often? Is our assumption of the universality of the sociologistic relations wrong? Are we to abandon the scientific method? Why are our mathematical curves failing? Failing of the scientific researches shows that either the world is not scientifically patterned, or the scientific method is not suitable to discover the ontological realm. It tells us that a philosophical discussion of social demography is an essentiality of our times. There is also a need to develop anthropological and philosophical theories of population which can supplement the works of quantitative demographers. And hence the social demographers may base their work on Sorokin's theory of society rather than on a socially abstracted theory of Bogue. Sorokin's model of diffusion and fertility reduction can be integrated to provide a theoretical framework for examination of the diffusion process. It studies the relationship between diffusion and social stratification as well as the various social interconnections through which the social and cultural dynamics may be manifested. It enlarges the span of methodology of social research and supports the idea of total human confrontation with the reality rather than that of the narrower empirical constructions.

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THREE

Methods in Social Demography

In the first two chapters we had discussed the basic problems and perspectives in social demography. In this chapter we present and evaluate the social demographic methods. To avoid repetition, we will discuss the various research methods from a purely technical angle, and will pay minimum attention to their paradigmatic and theoretical bases, though, as we have shown before, the problem of method cannot be solved in isolation - that is, it cannot be separated from the metatheoretical debate. The purpose of this chapter is twofold. Firstly, it puts forth the main practical approaches that the social demographers have been using to study their problems, and draw conclusions regarding theoretical and policy questions. Secondly, it looks at merits, demerits, philosophical roots of these approaches and their applicability in population research. Finally, it puts forward the idea of combining methods and examine its legitimacy. For the young researchers it will yield a new framework for studying the correlates and implications of population processes in a particular setting.

Broadly speaking, there are two main kinds of sociological methods - which are available to sociologists of demography. They are quantitative and qualitative methods. Philosophically speaking, while the former is a product of positivistic epistemology, the latter is a product of phenomenological epistemology. In simple terms, those who believe that sociology is a science, and man and his social environment can be studied by the methods of science are likely to use the quantitative methods, and those who claim that human action is qualitatively different from the behaviour of non-human entities because it is *essentially* rooted in the subjective meaning people attach to their actions, and the constructs they develop to act in their life-world say that man and his universe can be understood only by discovering egological human rationality. Technically, the quantitative methods attempt at explaining social world in the language and logic of mathematics, or mathematical probability, the qualitative method explains the same world by an ethnographic procedure. However, few researchers maintain the difference between philosophical and technical sides of the quantitative and the qualitative methods: most are oblivious of the implications of separating technical concerns from the epistemological problems. Of late, in 1984, Bryman has emphasized this in a debate on quantitative and qualitative research.[1] Further, in addition to quantitative and qualitative research, now there is a growing support for the following: (*a*) triangulation or a combination of methods; (*b*) abandoning method; (*c*) integral method; and (*d*) ethical-speculative rather than empirical methods. Social demography has its own contributions in the area of methodology, though most of them can easily be placed in the category of quantitative methods. Now we will discuss the main characteristics of the sociological methods, and illustrate their value in a social demographic enquiry.

Quantitative Methods

The quantitative method is not a definite technique of research. Rather, it refers to the use of all kinds of mathematical and statistical techniques to describe social phenomena and their interrelationships in objective, scientific and universalistic terms. It has been the chief method of population research due to social demography's main concern about estimation of rates and ratios, correlation between demographic and social factors, planning, and prediction. In other words, demography could thrust the quantitative method due to hypostatization of its concepts and their emphasis on the internal dynamics of relatively quantifiable demographic processes – which has made it possible to go for some kind of generalizable or generic laws. Implicitly, it rests on the assumption that the socio-demographic variables are discrete and unitary rather than intricate, inner moving and contextual; and they are related among themselves through stabilized patterns of interaction.

According to Heckathorn there are three types of application of mathematics in sociological studies: *(a)* descriptive or parametric statistical methods which may be used to summarize data or evaluate hypotheses; *(b)* statistical methods which are designed to extract empirical theoretical models from the data directly; and *(c)* mathematics as a linguistic-communicative device.[2] In social demography, it is mostly in the first two senses that mathematics is applied, though its application in the third sense is also not rare. Mathematics rendered demography a well defined pursuit of scientific exploration and a very high rigour that not other sociology can claim.

With regard to ways of obtaining data, practically all the techniques, such as experimental methods, surveys, censuses, and analytical as well as simulation methods have been used in social demography. It has also benefited from civil registration of births, deaths and marriages, and administrative records kept for a variety of purposes. Ideally, a reliable scheme of registration provides the true time-series data of births, deaths, migration and marriages, cross-classified by relevant background variables. Analysis of these data pose no special difficulty - they can easily give us rates and ratios of the events at national or subnational levels for different categories of population. One has to know just their frequencies in populations from registration, and sizes of the populations from census. This approach is basically a morphological approach, and with this approach variety of material factors behind inter-spatial and longitudinal variations in the rates and ratios can be shown. Interpretation of the results obtained from the registration data assumes that the institutional and collective psychological factors can be reduced to social morphology - that is, to distribution, composition and movement of population, and the social and political institutions. This source of population data, however, does not provide complete and reliable statistics in India. For all practical purposes, it has been substituted by an alternative system of sample registration scheme or dual record system, though efforts are being made to improve upon the quality of registration data.

The decadal censuses have by far produced the maximum data on population composition and dynamics in India. Internal analysis of the census data obtained at a fixed time, and comparison between the data obtained at two points of time are the two most commonly used demographic methods of analysis of the secondary data; Census is the primary source of data on age, sex, marital status, literacy, labour force and other types of population composition. It also provides data on distribution - and redistribution - of population. Questions on child born last year, total number of children surviving, place of birth, place of last residence, duration of residence, etc.

have yielded very rich population data, which have been used for estimation of rates and ratios pertaining to fertility, mortality and migration. Mathematical demographers have developed some powerful analytical models that express the relationships between the different components of population, so that one can be known from the knowledge of the others. Stable population theory is one such model. It expresses relationships between birth rate, death rate, and age distribution in a population subjected to constant fertility and mortality schedules over a long period of time-characteristic of most pre-transitional societies. Attempts have been made to modify this theory for the populations which have undergone some mortality decline in the recent past. With the application of such theories, fertility and mortality estimates can be derived from one or more of the following statistics: *(a)* intercensal growth rate, *(b)* age distribution, *(c)* child-woman ratio, and *(d)* survival ratio, *i.e.*, ratio of size of an age-group in a census to the size of the same birth-cohort in the earlier census. In these methods, estimation may sometimes require some assumptions about some unknown population characteristics, or those population characteristics on which reliable data are not yet available.

Experimentation with human beings creates enormous practical, ethical and political problems. Except in psychology of a certain type, experimental method has not been used at a large scale in human sciences. Undoubtedly, the causal equations can be established only through experimental research, whereby the experimenter can control all environmental and variations between subjects - he may even control the experimenter's bias - and study the true nature of causality, but in the area of social demography it is virtually an impracticable task. Despite this some researches, particularly in the area of the determinants of fertility and family planning practices, have used a variant of this method. Generally, they divide a population into two matching groups; perform some experiment such as trying a particular communication strategy, distribution of a contraceptive device, and launching of some developmental activities in one of them; and observe the longitudinal differences between the two.[3] If any significant difference is found between the experimental and control groups, it is attributed to the experiment. It may be noted that such researches can at best be experimental in design; their results cannot be accepted as truly experimental findings –human behaviour cannot be observed directly and all the empirical researches, including such experimental types, reveal only what the respondents say, and what the interviewers hear.[4] From the interactionist point of view, they say more about the interview process than about the respondents; in a true sense the research should be considered a 'human' activity in its full complexity which reflects on the substantive issues as well as on the mode of this reflection.

In addition to census, sample surveys provide another major source of social demographic data. In almost all countries, national and regional surveys of special interest are conducted by state planning bodies, universities, voluntary organizations, and others. Some are periodical, and some are conducted as and when they are needed. In India, the National Sample Survey Organization (NSSO) has been conducting surveys on the various socio-economic and demographic problems at regular intervals. Operations Research Group (ORG), an independent research organization, has also supplied family planning data from nation-wide surveys. There is no dearth of regional and local surveys on population. They have larger scope than a census and collect in-depth data on the particular aspects of the problem. Sometimes the census data are also published on the sample basis. It is said that though the results from samples contain sampling error, they compensate for this damage by reducing many types of possible non-sampling errors. Moreover, the sampling theory has shown that there is no appreciable improvement in sampling error if the sample size is raised beyond a limit, but the cost of study and other types of error increase continuously.

The hypostasis of the sample surveys is in that given some *a priori* knowledge about population - from a census, an earlier survey, the surveys of the similar populations, or a pilot-study - it is possible to select a part of the population that gives results which are very close to population characteristics. If the selection of sample is subjected to laws of chance, a statement about standard error (standard deviation of the sample estimate) can also be made. In terms of design, the sampling methods are divided into two broad categories of purposive and probability sampling methods. In the former category we can include all those types of selection procedures which aim at satisfying some definite purpose behind selection. A sophisticated version of this is a quota sampling method. In quota sampling, the researcher attempts to select a definite number of individuals from the different categories of the population so that the heterogeneity of the population is properly represented by the sample, and the selection of individual units may be made incidentally, at random, or according to convenience, by the researcher himself. Contrary to this in probability sampling the researcher cannot take decisions regarding selection of sampling units. And it is the hidden law of chance which takes such decisions. Therefore, the resulting sampling may be called a random sampling. To ensure the randomness of the selection process, decisions may be based on the random number tables - or the pseudo random numbers, generated by a computer. In order to improve the precision of the results (which is inversely proportional to the standard error), the population may, first, be divided into a number of more or less homogeneous groups, and then independent random samples may be drawn from each of these groups. This technique of sampling is called stratified random sampling. Alternatively, the population may be divided into relatively heterogeneous clusters and a few clusters themselves may be randomly selected - in that case all the individuals of these selected clusters constitute the sample units of a cluster sampling. In actual operation the decision may not be so simple as discussed above: the situation may demand a complex sampling that combines two or more types of the above procedures. The design becomes highly complex when the selection of units is made at different levels as in a multi-stage sampling, or at different points of time as in a multiphase sampling. Finally, the choice of an appropriate design is based on the administrative convenience, resources and purpose. It may also be based on the design effect, which is 'ratio of the actual sampling variance, taking into account the comlexity of the sampling design, to the variance of the same sample size under assumptions of simple random sampling.'[5] Sometimes the sample survey method is used in the longitudinal studies to study the diachronic changes, or to test the stability of the responses, too. In such cases it is necessary to avert the effects of changing population from the other types of variation in the survey results and correlations; the change in population morphology *per se* can yield a pseudo variation in the survey correlations. Nevertheless, the longitudinal surveys in which the same sample of respondents is followed up over time provide a rich source of data to look at stratal differences in the timing and occurrence of demographic events.[6]

Since the socio-demographic surveys are usually large, they do not present the problem of sample size. But in the intensive field studies of particular aspects of the issues, due attention should be paid to the determination of sample size which depends on: *(a)* the quantum of error in the results that can be tolerated; *(b)* level of confidence demanded; *(c)* heterogeneity in the population; and *(d)* the availability of resources. Even in the large surveys the problem of ensuring appropriate number of observations in the relevant subcategories may commonly arise. For example, in an empirical study of causes of migration from rural to urban areas a sample of 1000 from the selected villages in the region may be quite adequate to show the factors associated with the place of origin or destination, but it may not suffice if one is interested in establishing the relationship between family size and migration among the poor respondents of a particular backward caste. Problems related to size may also arise due to non-response and missing data in a joint examination of several factors. Quite often there may arise a situation of trade-off between the theoretical variance, that depends on sample size, and non-sampling errors, on account of incomplete coverage, response errors, data management, etc..

Moreover, the quantitative studies have to face the following three major challenges:

1. Measurement and scale construction
2. Quality of data
3. Techniques of data analysis.

Some of the demographic variables, such as birth, death, sex, age, marital status and use/non-use of contraceptive methods, pose little operational difficulty but many others - especially those which have cultural content - such as migration, attitudes, social mobility, family-type, elite status, etc. pose enormous operational difficulties. Since these are the social constructs which cannot be observed directly, the researcher has to take some decision regarding how they can be operationalized and measured. His decisions regarding scale construction can make a tremendous impact on the final conclusions. In this area of measurement and scale construction, psychologists have made highly technical contributions in developing scales of attitudes, personality, stress, needs, motivations, situations, etc. which are claimed to possess high degree of reliability and validity. They have not been adequately tapped in population research. Demographers have relied heavily on a single simple sentence to extract psychological information from the respondents. Obviously they can benefit a lot by including standardized instruments/batteries in the data collection. It may be said that, generally, there are two main reasons for the present state of affairs: *(a)* sociological research *vis-a-vis* psychological research entails a large number of variables, and their simultaneous examination, which means that use of elaborate psychological scales of measurement is not feasible in a single study; and *(b)* the technically superior questions may not be easily understood - they may be too abstract for the respondents, particularly in the illiterate and backward sections of a developing society - and they may, therefore, cause problems of comprehension. However, as far as possible, their use can improve the precision and usefulness of the research findings. Another problem facing demography is that there are multiple indicators of the processes and event rates; there are several indices of fertility, mortality, migration, and urbanization. The conclusions of a research involving these variables may vary according to what index has been used in the analysis. Sometimes it is possible to interpret these variations - if there are some clear-cut conceptual differences among the alternative indicators - but many times they create terrible confusion. In any case the demographers cannot dissolve the issue of how to select the most appropriate index of a process; the selection need to be made with great care.

The quality of data depends on the quality of the responses. Errors in survey responses, which can be defined as the difference between the expected survey value and the true value, may arise from the respondents, from the questionnaire, from the execution of field work, or from the nature of the data collection processes itself.[7] It is a matter of great skill to develop rapport with the respondents, and win over them to obtain good data. The respondents attach a definite meaning to the field worker, the very process of the field work, and the subject of the research, which have a phenomenological context, and that can distort their responses. Researches show that there are a variety of problems even regarding wording, form and placement of questions in a survey questionnaire which affect the accuracy of response. They are the problems of *(a)* definition, comprehension, memory, social desirability, and response bias in cases of factual questions; and *(b)* issues of balance, acquiescence, the offer of middle alternatives and the order of presentation of alternatives in cases of non-factual responses.[8] Saxena, Verma and

Sharma have shown that even the data on age, which poses no great conceptual problem for us, have not been free from errors due to many socio-cultural reasons – accuracy of the age data depends on the objective as well as subjective conditions of the respondents, and also on the process of linguistic and symbolic communication between the interviewers and respondents.[9]

Recently, in a paper on the methods, Srinivasan has presented an overview of the techniques in the analysis of survey data. According to him, given information on a set of 'p' predictor variables (say socioeconomic and biological variables) X_1, X_2, ...X_p, and a dependent variable (say cumulative fertility) y, on 'N' individuals, some of the major questions for the analysis are:

(a) How well do the 'p' predictor variables predict fertility? What proportion of the variation of 'y' can be explained by a knowledge of the 'p' variables?
(b) What is the best functional form of the predictor variables to estimate the dependent variable?
(c) Are there 'irrelevant' or 'redundant' variables among the predictor variables which can be safely omitted without altering the predictive capability of the remaining variables
(d) Are there predictable 'path' or 'paths' of influence among the predictor variables leading to the dependent variable?
(e) What is the effect of each variable on the dependent variable, after either ignoring the other predictor variables or controlling their effect?
(f) Are there any underlying factors of causation discernable in the set of predictor variables.[10]

The decision regarding the technique of analysis is a crucial decision. It depends on the nature of the study design, the scale of measurement of the available data, objectives of the analysis, theoretical requirements of the techniques, and the technical facilities for computation. Srinivasan has identified the following five major techniques of analysis which are in use today:

1. Multiple regression analysis
2. Path analysis
3. Analysis of variance
4. Factor analysis
5. Cluster analysis

Amongst the above, the technique of multiple regression analysis is applied most commonly in analysing survey data. It attempts at formulating a statistical causal model of the dependent variable, regressing it against the set of predictor variables. In this approach we, first, express the dependent variable or its appropriate function in terms of the predictor variables, or their appropriate functions, and an error term, through a suitable linear equation, and, then, estimate the constants of the model from the empirical data; the error term stands for the effects which are not included in the model, chance, and the measurement errors. There are many techniques of estimation in statistical literature for this purpose such as the method of least squares, the method of maximum likelihood method, the method of moments, etc. But, in practice, the method of least square has wider acceptance than any other method. It rests on the simple statistical logic that the best constants are those which minimize the sum of squares of the residuals, *i.e.*, the sum of squares of the differences between the observed and the estimated values of the dependent variable. They produce the best 'fit' model. But there is no guarantee that this best 'fit' reveals the true underlying structure in the data. In order to test the fitness of the model, one needs to compute: what proportion of the variation in dependent variable has been explained by the model? Coefficient of multiple determination - that is, square of the correlation coefficient between the observed and estimated values of the dependent variable - gives us this proportion. Mathematical theory of regression analysis can be used to estimate the standard errors of the constants of the regression model (which are called the partial regression coefficients, or elasticities), and the associated coefficient of determination, as well as to compute the standardized regression coefficients adjusted for the variation in the standard deviations of the variables.

Regression analysis is based on the six main assumptions. Firstly, the residual factor, which stands for the difference between the observed value of the dependent variable and that estimated from the model, embodies many influences which cancel each other. Secondly, the residual errors are unrelated over time. Thirdly, the standard deviation – an index of variability – of the residual factor is constant for all observations. Fourthly, the residual factor is uncorrelated with independent variables. Fifthly, the residual factor follows a normal distribution. Lastly, the independent variables are truly independent, *i.e.*, no two independent variables are correlated.

Most of these assumptions are very strong. In particular, the last condition is seldom satisfied in social demography: when the demographic rates are regressed against a set of the socio-economic factors, the problem of multicollinearity (non-zero correlations between the so called independent variables) is always present. Typically, the socio-economic, or background factors, include age, sex, marital status, education, income, urban-rural residence,. type of family, occupation, religion, caste, family size, etc. – many of them are highly correlated. Violation of the assumption of independence of the predictor variables produces very large standard errors of the regression coefficients and makes them practically useless, though the model can still be used for predictive functions. In the circumstances in which multicollinearity is present, the technique of path analysis can be better suited than that of multiple regression. Fig. 3.1 presents a composite illustrative model that requires application of the path analysis. The model has been taken from a study of regional variations in infant mortality in India.[11]

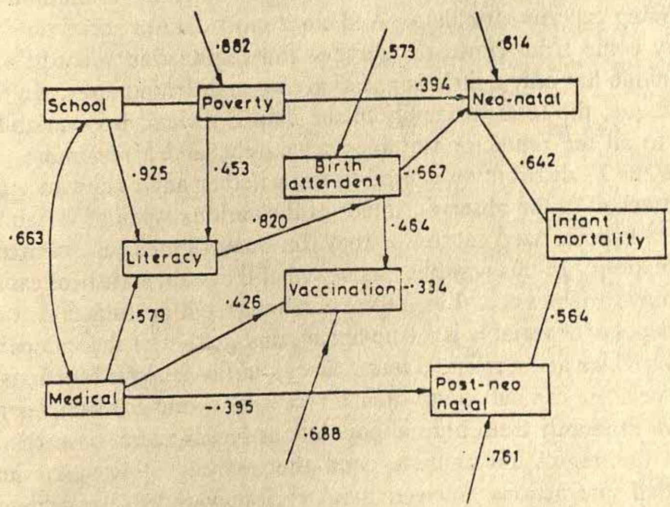


Fig. 3.1: A composite model for the determinants of infant mortality
Source: Jain A.K. 'determinants of regional varlations in intant mortality in rural India', *Population Studies, 39:3, 1985, p.421.*

In the above model infant mortality cannot be regressed against schooling, medical facility, poverty, literacy, availability of birth attendant, vaccination, neo-natal and post-neo-natal mortality by the technique of multiple regression analysis, because *(a)* the predictor variables are interconnected, and *(b)* there are a lot of exogenous influences on most of them. Path analysis *vis-a-vis* regression analysis shows the various paths through which the relevant variables affect the study variable in a complex web of socio-demographic factors and the path coefficients, which like regression coefficients, indicate the strength of causality. The advantage of this analysis is that the effect of any factor on the study variable through one or more factors can simply be computed by multiplying the path coefficients. Therefore the effect of literacy on infant mortality through birth attendant and neo-natal mortality in the model of Fig. 3.1 is equal to the product of three path coefficients: (.820) X (–.667) X (.642) = –.351. In general, the effects - direct, indirect, net and joint - can easily be estimated from the path coefficients and the correlation coefficients among the explanatory variables.[12]

The analysis of variance technique is basically a method of analysing experimental data. And since most data of social demography come from censuses, surveys and registration records, this technique has only a little application in social demography. In this technique, the total variability in the data is divided into variability due to all the predictor variables separately, and a residual error. Then the F- distribution is used to test whether any significance can be attached to the observed values of the various types of variability due to hypothesized causes, or they can be attributed just to chance fluctuations. In this way one can say what the main statistical causes of study variables are. Like regression analysis, it postulates that *(a)* the dependent variable is a true linear combination of the independent variables and a residual term, though in the analysis functions of the variables can substitute their direct values, and *(b)* samples are drawn randomly from normal populations having common variance. Both the regression analysis, and the analysis of variance have handled interactions between two or more variables by adding a term for the multiplication of them in the original linear model. Mohsin has shown some examples of the analysis of variance in research.[13]

Factor and cluster methods have been used very commonly in psychological research. Essentially, they are methods of data reduction, and they accept a large correlation matrix as input. They attempt to unearth the factors, *i.e.*, groups of original variables, which reveal the major dimensions of the data. The number of factors may be fixed by the researcher himself, or it may be determined by certain logico-statistical procedures. For example, in an exploratory study of acceptance of family planning, a large number of micro, meso and macro variables may be included. And after collecting information on all of them, the data are subjected to factor – or cluster – analysis. If the total number of variables including family planning is 50, they can be reduced to 5-10 major factors, of which one factor will contain family planning variable. According to the factor method, the variables which join family planning in forming one factor may be discussed as the correlated causes of family planning acceptance. The factor analysis can give *(a)* the percentage of total variance explained by each factor, and *(b)* communality of all the original variables, *i.e.*, the sum of squares of the regression coefficients in regressions of the original variables on the emergent factors. The factors may be considered as primary dimensions of the individual differences; they are linear combinations of the original variables. Overall and Klett have suggested several techniques of factor analysis which may be applied according to the requirements of the research.[14] Further, the cluster analysis can be used to form groups of the predictor variables in such a way that the variables within each cluster have maximum intercorrelations, and variables between two different clusters have minimum intercorrelations. To this end, B- coefficient method may be used. According to this method, we begin by making a cluster of two variables that show the highest correlation. Then, to test whether any other variable can be included in this cluster or not, we compute ratio of average of correlations between the three variables – two of which already exist in the cluster, and one for which the possibility of inclusion is to be tested – to the ratio of average of correlations of these three variables with all the remaining variables. Obviously, a high value of the ratio so obtained favours inclusion of the third variable in the cluster. In practice, it implies that those variables may be selected for the test, which have relatively high correlation with the variables already included in the cluster. Upon getting an appropriate level of the ratio, expansion of cluster is stopped, and a newer cluster is formed. The factor and cluster techniques of analysis can be used in scale construction, causal interpretation, and multivariate analysis.

Sometimes factor analysis technique is applied to compute canonical correlations too – that is, the correlation between the functions of two different sets of data.

All the above techniques are applicable only to the continuous data, obtained on ratio, or at least on the interval scales. Yates has developed a technique of multiple classification analysis which can be used even when some or all the variables, dependent as well as independent, are measured on nominal scales. 'It assumes that the average score (on the dependent variable) for a set of individuals is predictable by adding together the "effects" of several predictors. An important implication of this is that the program is insesitive to interaction.'[15] And it produces the following statistics: *(a)* mean score on the dependent variable in each category; *(b)* unadjusted deviations for each category; *(c)* adjusted deviations for each category which are adjusted for the influences of other predictor variables; *(d)* Beta^2 and Eta^2 for each predictor which show unadjusted and adjusted proportion of the variation explained by a predictor; *(e)* the unadjusted R^2, *i.e.*, the actual proportion of variance in the dependent variable explained by using the obtained coefficients in the model; and *(f)* the adjusted R^2 for the appropriate degrees of freedom. Use of the multiple classification analysis method, however, requires a considerably large number of data cases, and it does not readily provide standard errors of the estimates.[16]

Undoubtedly, the quantitative methods can contribute greatly in model building in social demography, if their use is warranted by the research design, and the nature of the data. But the researcher should realize that their application is subject to several methodological and theoretical assumptions; indiscriminate use of these methods can yield absurd and erroneous conclusions. In view of their practical and theoretical pitfalls, some demographers have recently favoured graphical devices, and, in particular, Chernoff's faces to display and analyse the multivariate data.[17] At present, their full implications – advantages and limitations – are not fully understood. If they are found to be successful, they can produce more logical and more meaningful quantitative theories than the previous methods.

Having presented the major quantitative methods, we can now proceed to critique of them on technical as well as philosophical bases. On the technical grounds, it may be said that it is not always possible to measure all the relevant variables on the interval or the ratio scales without errors. Moreover, the causality can truly be examined only in the experimental data, and not in the correlational data of survey designs. Blalock has identified six main problems in drawing causal inference from the correlational data *(a)* alternative models may exist to fit the same data; *(b)* there may be some additional variables, and their exclusion can change the results completely; *(c)* independent variables may actually be correlated; *(d)* there may be some interaction effects; and *(f)* the causation may be reciprocal. As a matter of fact, there may be more correlates than causes, and there is absolutely no law of eliminating non-causal correlates from the data.[18] On the philosophical grounds, the problem is that the social variables are not discrete and unitary. Rather, they are quite intricate, inner-moving and contextual; their relationships are not subject to stabilized patterns of interaction, *i.e.*, they lack generic laws. Blalock says: 'if reasonably general laws of human behaviour are to be found, they will undoubtedly have to be fairly complex if they are to be applied to a wide range of specific phenomena. For example, simple statements of the form, "the greater the X, the greater the Y", will have to be modified by spelling out the conditions under which they can be applied. A good deal of attention must also be given to the question of exactly what is to be included as an X or a Y.'[19]

Blumer has criticized the analytical approach that 'seeks to reduce human group life to variables and their relations.' He has suggested that the study of group activity should be approached 'through the eyes and experience of the people who have developed the activity.' He said that the variable analysis in sociology suffers from the three main limitations. Firstly, there is a complete chaos regarding selection of variables for which no universal scientific rule exists. Secondly, the sociological variables are quite often contextual, *i.e.*, they have no fixed or uniform indicators and their contents are localized. Thirdly, though the major findings of the analysis are 'here and now', they do not provide an understanding of the context of 'here and now'.[20] Basically, the quantitative analysis attempts to relate the input (predictor or independent) variables to the output (dependent) variables and ignores the intervening processes–the internal state of the system–and, therefore, it has only limited use in theorizing about sociocultural dynamics.

In the light of the above shortcomings of the quantitative–methematical and statistical methods–researchers show two main reactions to the methodological tradition. They may be called the reformist and the radical reactions. The reformists argue for technical sophistication in the same positivistic framework. For example, some of them propose that the Boolean approach substitute the conventional statistical techniques of multivariate analysis: the Boolean approach is holistic and 'unlike the statistical approach which starts with simplifying assumptions, the Boolean approach assumes complexity and then attempts to simplify complexity logically.'[21] Some others suggest that the sociologists conduct sensitivity analysis, *i.e.*, they should develop indices of sensitivity of the findings to model specification, errors in the data, and the measurement scales.[22] But most of them feel no basic dissatisfaction with quantitative method, that alone is considered capable of yielding precise scientific conclusion, and they favour mere technical modifications so that the vagaries of the social variables and the data do not affect the practical utility of analytic techniques. The radical theorists, on the other hand, stress that alternative methods of approaching the social phenomena be developed. They favour intensive micro studies, ethnographic method, qualitative analysis, critical incidence method, etc. Some are always middle-of-the-road or synthesizers who see few plus and few minus points in all the extreme views, and say that a syncretic conception be held.

Qualitative Method

Whereas the quantitative method studies social reality in objective scientific perspective, the qualitative method studies the same, from the actors' own subjective view point. But this is a philosophical difference. Technically, the qualitative method stands for ethnographic procedure, studies of documents, sympathetic appreciation of experience of subjects, in-depth micro-investigations, critical incidental analysis, clinical methods, projective tests and informal interviews. Those who favour qualitative method say that in the quantitative experiments or surveys the researcher imposes his own theory or the conceptual framework on the reality; his reality, thus discovered, is a biased interpretation of the real world. Contrary to this, a qualitative researcher, who employs the technique of participant observation, becomes someone who seems to be another person in the situation. Therefore the qualitative method yields a real description of the universe, priorities, meanings and decisions.

Human behaviour is not the behaviour of matter that can be known and predicted simply on the basis of logic-mathematical relationship between stimuli and response; and explanation of human behaviour can be given only by understanding what happens inside his consciousness which leads to observed response in the presence of the stimuli. And these inner processes can be known only by becoming someone like the subject in the situation of the subject, or by access to material in which the subject has projected himself. The former idea legitimates the participant observation method, and the latter legitimates the use of the documents such as letters, diaries, literature, guided discussions in groups, informal interviews, critical analysis of the logical sequential structure of a natural happening, etc. It may also be possible to apply techniques of clinical psychology, and have sympathetic understanding of the interior world of meanings of the subjects.

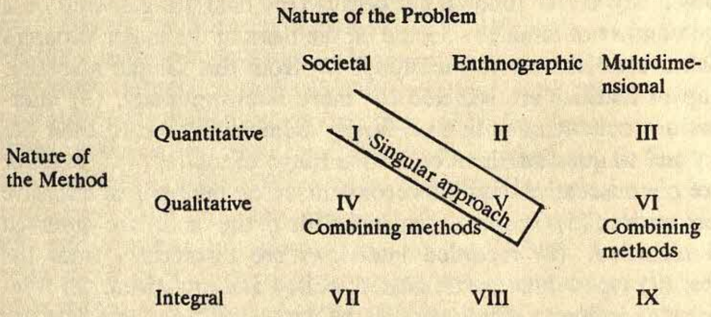
If meanings are not universal, and they vary from culture to culture and man to man–as the case is–the 'standard' is not 'real'. The quantitative method yields knowledge about the standard, *i.e.*, about the standard sample units and the standards of meanings, processes, functions and implications of social institutions in objective and universal terms. For example, mathematical relationships can certainly be developed to show the direction and the degree of errors in responses to the question on age at international, national or regional levels, but if the concept of age error is not the same in the different cultures–or even in the same culture, in different organizations like family, school, courts, hospital, clubs and business–they carry no meaning. All individuals do not state their age incorrectly for the same reason; there is no definite matrix of causes of under- and over-estimation of age in the demographic surveys. The supporters of qualitative method, therefore, stress the need to study both text and context; they claim that the text cannot be adequately explained without a deeper understanding of the context.

Qualitative method is an old anthropological method–though many of the present day anthropologists themselves are attracted by the perceived 'power' of the quantitative. Positive methods, and in their anthropological works they are using statistical methods such as regression analysis, path analysis, and canonical correlations. In a recent work on reproductive decisions and family planning, Khan *et al.*, used the anthropological case study method to find out the reasons why many couples in rural India, who do not desire additional children, do not practise family planning methods.[23] Earlier Knodel *et al.* applied a qualitative method in the analysis of fertility transition in Thailand. They conducted group discussions in which six to ten persons participated, under the guidance of a moderator, and talked about various relevant topics. They expressed that, 'informal group situation and open-ended nature of the questions are intended to encourage participants to comment on behaviour and elaborate opinions to an extent that is difficult in more formal individual interview situations.' The purpose of the enquiry was not to produce statistically generalizable quantitative data but to obtain qualitative information to expose the underlying patterns of attitudes, opinions and behaviour. The study supplied the findings of their qualitative analysis which were supported by typical and clear quotations.[24] Obviously, this approach alone can provide deeper insight and richness of information, on one hand, and cultural knowledge of taken-for-granted everyday and common-sense beliefs, rituals, myths, decisions and social institutions, on the other. Till this data, application of qualitative method in social demography has been a relatively rare event and there is lot of scope for it, particularly in the area of subjective understanding.

Combination of Methods

Since all the methods–formal and informal–have both merits and demerits, some researchers have suggested that a proper combination of two or more methods be used in a research. If the quantitative knowledge is generalizable and antirelativistic, it is based on fallible assumptions, categorization and method of enquiry–it may miss the cultural foundations of the social behaviour. And the qualitative knowledge, that achieves ethnographic insights, cannot be generalized. Further, its application is limited by a number of facts: *(a)* it takes more time because events can be studied only when they occur; *(b)* the researcher has to join study groups which may not always be possible; *(c)* during his long stay among the subjects the researcher may be enmeshed in the group and become a 'non-observing participant' rather than 'non-participating observer' or 'participating observer'; *(d)* the qualitative data are not subjected to tests of validity and reliability; and *(e)* it raises a fundamental ethical question: should you publicize the insiders' views which are taken in full confidence and without disclosing your motives?[25] Quite often the choice of method–quantitative or qualitative–is practically a problem of conflict between the generalizability of results and the depth of the enquiry. In such circumstances, a proper combination of the methods may resolve the problem. Regarding the socio-anthropological research on family, the famous anthropologist Lewis said: '. . . the major steps involved in producing a well rounded family study are as follows: (1) census type data are gathered on a large number of families selected on the basis of the major variables which are of interest to the study; (2) from this sample a smaller group of families are selected for more intensive study; (3) interviews are conducted with each family member to record their life story and to question them on a wide range of topics; (4) a week or more of consecutive days are reconstructed on the basis of intensive interrogation; (5) complete days in the life of the family are observed and recorded; (6) recorded interviews are transcribed from the tapes; (7) typed data are translated, edited and organized; (8) reinterviewing is done to fill in gaps in the data–significant new data are translated and inserted; (9) the final version of the autobiographies and days are edited for publication.'[26] In this method, Lewis has combined the sociological survey and sampling procedures with the anthropological life story and day procedures to arrive at a more comprehensive picture of family.

Normally, we can expect three types of combination of methods. Firstly, a researcher may apply quantitative method to test theories which are formulated on the basis of ethnographically derived taxonomies, decision models and perspectives. Secondly, a researcher may apply qualitative ethnographic method to test social-morphological hypotheses about the macro-sociological variables. Thirdly, both quantitative and qualitative methods may be applied to examine the same hypothesis about objective, or subjective, consciousness–or a combination of the two. MacCormack[27], Nag and Kak[28], Greenhalgh[29], Dyson and Moore[30], and many others have used the first approach to study subjective aspects of fertility transition, income distribution and related issues. Tannenbaum[31] has used this approach to test the 'Chayanov's rule' that the more consumers each worker has to support the more work each worker does, in the Shan community in northwestern Thailand; he showed that though no such correlation exists, it does not disprove the model. Carbonell[32] has developed computer methods to examine belief systems and subjective understanding. Knodel *et al.*[33] and Khan *et al.*[34] have used the second approach to study patterns and determinants of fertility and family planning. Though a number of researchers in sociology and social demography have presented case studies in their research reports to explain, justify, and support the analytical findings of the surveys, the third method, suggested above, is yet to be accepted as a valued method of research in sociology and social demography.



		Nature of the Problem		
		Societal	Enthnographic	Multidimensional
Nature of the Method	Quantitative	I	II	III
	Qualitative	IV Combining methods	V	VI Combining methods
	Integral	VII	VIII	IX

Fig. 3.2: Typology of Socio-Demographic Methodologies

Now, in principle, we can identify nine methodological approaches to study social events and processes as shown in Fig. 3.2. As mentioned above, the socio-demographic problems may be studied from three angles–objective societal, subjective ethnographic, and multidimensional. And they can be studied by three methods–quantitative, qualitative and integral. Out of the nine methodological approaches shown in the figure, only I and V are singular; all others enjoy a combination of different methods and perspectives. Type IX shows what the social demography can yield in its best form, though the resources and the limited objectives of a research problem may not always warrant its application. However, the approaches IV and VII may be used to substitute the present type I approach so that we have more complementary grasp of the socio-demographic complexity.

An Illustration

The methodological approach of combining methods may now be applied to develop an illustrative design for research in the area of nuptiality in rural setting. Available literature on marriage and fertility shows that rise in the age of marriage and frequency of celibacy have played an important role in fertility decline in the West. The effect was more conspicuous in the first phase of fertility decline, which started with a reduction in the rate of nuptiality; in the second phase the decline in the birth rate followed an increase in nuptiality and reduction in frequency of single persons, when it occurred due to rise in the level of contraceptive use. The age at entry into sexual union (which in the Indian context would imply the age at marriage) occupies an important place in the well known theory of intermediate variables, of the socio-cultural determinism of birth rate, as also in the theory of proximate determinants. Several demographers in India and abroad have indicated a negative association between total fertility rate and age at marriage. A rise in the age at marriage leads to a reduced reproductive span for the females, which consequently depresses their family size. The relation is both empirical for realistic populations, and analytical for hypothetical stable populations. Analysing the fertility data of the 1971 census, Sharma and Misra[35] observed a continuous decline in total marital fertility rate as the age at marriage increased. In the light of the presently available results of the World Fertility Survey, Conception[36] has expressed that as a part of the legal measures and policies for reduction in family size, public discussion leading to a clear legal minimum age at marriage at least at 18 years, to prevent child marriages and adolescent pregnancies, should be encouraged. In India, as part of the general population policy, the legal minimum age at marriage has been raised to 18 years for girls, and 21 years for boys. It was one of the major recommendations of the Working Group on Population Policy that 'the recently enacted law regarding the minimum age at marriage should be enforced. There should be a massive educational programme and special literacy programmes for girls.'[37]

However, in order that a law is successful and is utilised as an instrument of social change, it has to move with the equally fast normative changes: changes in norms, customs, and institutions of the community. Demographers have, unfortunately, paid minimal attention to study the sociology of the enacted law regarding age at marriage, and to understand the dynamics of the acceptance of the law itself. Research has to be undertaken so as to make a contribution in this direction. The objectives of this study may be as follows: (1) to study the ideal age at marriage in a rural population; (2) to study the socio-cultural factors leading to the desirability of the expressed ideal age regarding marriage; (3) to study the correlations of ideal age at marriage with some background variables; and (4) to discuss the demographic effectiveness of the enactment of the law regarding fixing the minimum marriage age at 18.

Traditionally, the 'ideals' have been measured in population surveys by asking a direct question on what is the respondents' ideal or desire–and rarely by a sophisticated statistical technique as of unfolding theory.[38] A simple question to this effect should be asked to have an overall idea of what is the ideal age of marriage. If it differs from the actual age of marriage for the recent marriage cohorts, it shows that normative changes are occurring and they will produce a corresponding change in reality in due course of time. But an adequate understanding of the ideals entails examination of the effective levels of kinship organization on one hand, and cultural processes on the other. Experience shows that in contemporary India the basic unit of kinship organization is the nuclear family, though the decisions it takes are influenced by extended network of kinship, caste, village norms and the social environment. Further, marriage in India is not a one-point-decision; in majority of cases, marriage is followed by second marriage after which only the consummation takes place. In the regions and communities which had the practice of child-marriage, *i.e.*, marriage at a very low age, in the past, the age of second marriage was reasonably high. Thus asking a simple question on ideal age of marriage will not suffice. We have to ask specific questions on the various rituals, rites, and expectations associated with marriage, after achieving some understanding of them in a given setting by anthropological method. The questions should be directed to *(a)* working head of each household, *(b)* their wives, and *(c)* other senior family members–the males as well as the females since the females are likely to exercise greater power in such matters than the males. By educing such information on the basis of sample the researcher can study the correlates of ideal age at marriage by usual correlation methods. However, as discussed in Chapter 2 correlations are not causal; causality again has to be established on the basis of the anthropological fieldwork.

Now the problem is: what are the socio-economic and cultural conditions which explain the stated ideals? Questions on this problem can be included in the survey schedules and the responses can be analysed according to structural factors, which will yield valuable information on the individual and the social differences. But the experience shows that the villagers, especially the illiterate and poor, are unable to answer abstract questions spontaneously. Thus their statements, which they give quite often to ward off the investigators, may not reveal the true picture. At the same time in a small rural community much can be learnt from a sociological rather than a psychological perspective that is, informal and indirect questions, participant observations and controlled group discussions with the respondents of similar social background can provide sufficient data on this matter. In surveys, projective methods should be preferred to direct and abstract questions.

In order to study the demographic effectiveness of raising age at marriage, the researcher has to pay attention to reproductive situation, values and decisions simultaneously. The social and anthropological methods can help in comparing the groups marrying at different ages in terms of *(a)* their reproductive performance, *(b)* values, *(c)* plans, and *(d)* expectations about materializing the plans. Again both husband and wife, and close kinfolk should be contacted. Moreover, attempt should be made to examine locus of control and individuals' actions to accommodate the collective pressures. Lastly it may be mentioned that in villages census type methods of surveys are more appropriate than the sampling method. If the villages are properly selected, the former can achieve everything that the latter is capable of providing. In sampling, it is difficult to establish good rapport with the illiterate and non-modern sample units who may not be satisfied with the investigator's answer to the question, why as to only they, and not others, are being interviewed. Besides, in addition to family, kinfolk, and caste pressures, villages have their own independent consciousness which is developed by a sheer process of collective living, and constant interaction among the villagers. As far as possible, informal methods should be used to elicit the data.

The above tentative plan involves to-and-fro process of field work. One cannot expect to find everything that one requires to study, explain, and interpret the aspects of human behaviour in one shot. He has to formulate and revise his strategies of understanding as much on theoretical basis as on the ethnographic basis.

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FOUR

Population of India: Structure and Features

Structure is a primary factor in the study of society. It occupies a central place in sociology, anthropology, psychology, political science, and in many fields of study of human behaviour. In some of the major perspectives in these areas, the theorists have attempted to reduce many aspects of change and processes to social structure. But in demography, till this date, studies of structure have had only a secondary or non-basic place. The reason for this is twofold. Firstly, the concept of structure in demography is not same as in sociology and anthropology. While the sociological conception of structure is centered around 'role', and the anthropological one around 'position', structure in demography is centered around a morphological basis. To be more specific, in demography, the term structure refers simply to statistical distribution of human populations by factors such as sex, age, marital status, urban-rural residence, religion, caste, education, industry and occupation, migration status, linguistic and ethnic bases, etc. Secondly, the demographers have paid much attention to the factors of population growth; and they treat structure as something merely dependent upon the trends in fertility, mortality and migration. They look at structure as a proximate rather than a primary cause of socio-economic development, mediating between demographic processes and socio-economic development. This is just the reverse of the structural tendencies in sociology and anthropology. Moreover, the data on population structure are obtained mostly through censuses, and they are subjected to positivistic treatment - with the help of frequency distributions, ratios and various statistical indexes. There is, undoubtedly, a lack of organized body of research on determinants and consequences of population structure. In this context, there is a need to examine various aspects of structure. The present chapter aims at presenting some aspects of population structure in India, and discussing their social significance. It will focus on size, sex ratio, age distribution, marital status, religion, literacy and education. Urban-rural distribution and work – two her aspects of structure – will be included in the subsequent chapters at suitable places.

Size

According to the 1981 census, population of India is 685.18 million. The census analysis shows that for the decade 1971-81 the average annual exponential growth rate of India's population is 2.25%. This is the highest rate ever observed in the country's known history till today. Demographers have divided India's population history broadly into three periods: (*a*) prior to 1921; (*b*) 1921-1951; and (*c*) 1951-1981. The first period is marked by a slow growth rate. Though this period had high fertility, it experienced only a slow and an irregular growth due to epidemics of cholera, smallpox, plague, and malaria, and droughts and floods which took their toll frequently in various parts of the country.* In the year after 1921,

TABLE 4.1: **Population by sex, Percentage Decadal Variation, and Annual Exponential Growth Rate of Population of India, 1901-81.**

Year	*Total Population*			*Decadal variation %*	*Average annual exponential growth rate %*
	Person	*Males*	*Females*		
1901	238,396,327	120,791,301	117,358,672	–	–
1911	252,093,390	128,385,368	123,708,022	5.75	0.56
1921	251,321,213	128,546,225	122,774,988	–0.31	–0.03
1931	278,977,238	142,929,689	135,788,921	11.00	1.04
1941	318,660,580	163,685,302	144,690,267	14.22	1.33
1951	361,088,090	185,528,462	175,559,628	13.31	1.25
1961	439,234,771	226,293,201	212,941,570	21.51	1.96
1971	548,159,652	284,049,276	264,110,376	24.80	2.20
1981	685,184,692	354,397,884	330,786,808	25.00	2.25

Source: Census of India 1981, *Population Projections for India 1981-2001*, Part 1 of 1984, Series 1, India, Registrar General & Census Commissioner, India, p.1.

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* Table 1 and 2 in the Appendix show the estimates of India's population, 300 B.C.– 1941A.D.

ment in transport and communication helped in controlling famine to a great extent. Besides,, the public health measures, adopted in this period, reduced the death rate through a direct attack on the intensity of the communicable diseases. As a result, population started growing. But it was the 1961 census that showed a sharp rise in the growth rate for the first time. While it is attributed chiefly to improvement in mortality, researches have shown that in the early phases of development, which followed the fall of a colonial system, development may have increased fertility temporarily through its impact on modernity, nutrition, and health. Table 4.1 shows the population data for India.

Table 4.2 presents the three sets of the new population projections prepared by the office of the Registrar General and Census Commissioner, India. The high projections assume that there will be no improvement in family planning efforts, and the present level of 28 per cent couples projected will be maintained. On the other hand, the low projections assume that the target of 60 per cent couple protection by the year 2000 will be achieved. The medium projections are computed for a somewhat safer assumption of reaching 48.8 per cent effective couple protection by the year 2000. Accordingly the population of India is likely to be between 959.2 - 1052.5 million when the country moves into next century. Certainly this sharp rise in population will pose enormous challenge to the national planners in working out the ways to satisfy growing needs for employment, education, food, housing, power and many other necessities of life. In a poor country, such as India, where most of the cultivable land is already cultivated and there is already an intense social conflict – arising out of competition for scarce resources – there is seemingly a justification and an unequivocal need for strengthening the programme of family planning. China, a neighbouring socialist country which shares many structural characteristics with India, has responded to population growth by launching an effective programme of 'one child'; and by using a multiplex strategy – based on practical, legal, psychological and political principles – to counteract the traditional norms of reproduction. Even though India cannot repeat the Chinese history in this regard – Indian polity has different parameters - serious planning need to be done. But as it will be shown later family planning programmes are parts of the larger social systems; they are not exogenous; their development, role and results are conditioned by the larger socio-cultural and political milieus.

TABLE 4.2: **Population Projections, 1981-2001**

Year	*Projections ('000)*		
	High	*Medium*	*Low*
1981	685,159	685,159	685,159
1986	758,158	758,158	758,158
1991	843,449	836,450	832,534
1996	941,970	915,493	900,982
2001	1,052,514	991,479	959,216

Source: As in Table 4.1.

Of all the thinkers who pondered on consequences of population growth, Malthus has made the greatest theoretical contribution. Malthus, basically an economist, went beyond economics in order to erect a kind of positive religion of intervention and a rational philosophy of planning; he rejected an idyllic and utopian picture of the future that was formed by his predecessors, mainly Godwin and Condorcet. While the latter philosophers believed that it is possible to build a society based on principle of rationality, and equality, Malthus suggested that population growth contains the unending germs of a perpetual agony of mankind.

Malthus made the following two postulates which are the backbone of his population theory: (*a*) food is necessary to the existence of man; and (*b*) the passion between sexes is necessary and stable.[1] On the basis of these two postulates, he argued that the power of population, resulting from constant passion between sexes, is indefinitely greater than the power of the earth to produce subsistence for man. He observed that while food can at best grow in an arithmetic progression at the intervals of twenty five years, population increases in a geometric progression. The implication is that the growth of population effects an imbalance between food and population. Periodically, two types of checks – preventive checks on fertility through celibacy and postponement of marriage; and the positive checks, operating through mortality, such as pestilences, famine, infant deaths, starvation, child exposure, customs with respect to women, great cities, unwholesome manufactures, luxury, and wars – are observed to be operating to restore the balance. He was well aware that temporary rise in per capita food is possible even when population grows and differences in social structure also affect social processes, but he was of the view that, in the long run, growth of population necessarily causes vice and misery and these effects are independent of forms of society, development and ideological factors.

According to the neo-Malthusianism, there exists an optimum population that maximizes social welfare; any deviation of population size from this number on either side will meet with underdevelopment. The idea is that from socio-economic, political and psychological angles, initially, when size of population is low, growth of population improves welfare standards and we observe a positive correlation between welfare – or welfare per capita – and population; but beyond an optimum point, growth of population becomes destructive. Critics say that it is impossible to compute an optimum number that maximizes social welfare; the optimum population size depends on a variety of factors such as resources, level of technology, structure of economy, ownership systems, and international situation. The extant idea, therefore, is that 'population growth is, of itself, a neutral phenomenon. It is not necessarily good or ill.'[2] Nevertheless, in the context of the developing countries, excessive population growth in the post-World War-II period, caused by a rapid improvement in mortality, has been supposed to be largely impedimental.

It may be said that the population growth may have the following major social dysfunctions: (*a*) loss of social cohesion or attachment to organization/society; (*b*) estrangement from social norms; (*c*) loss of efficiency; (*d*) loss of dynamism in authority; (*e*) increase in structural differentiation and decrease in communication; (*f*) greater need for impersonal control; (*g*) narrower role specialization and alienation; (*h*) fall in availability of resources per capita; and (*i*) psychoneurosis and several forms of psychogenic disorders. These dysfunctions are, however, only speculative. They are simply hypothesized on the basis of anthology of population and literature in social sciences; they should not be treated as experimental truths. Researches are needed to test them in the present day India.

In the future, population growth in India will affect the socio-demographic structure, distribution of power, and peace; and one may say that it may also pose a major challenge to national integration; the demographic trends show that the groups and states which are economically underdeveloped are growing faster than those which are socially and economically developed, which will further widen the regional, sectoral and social imbalances. It may be noted earlier that some sociologists felt that the problems of increase in volume and density of society – caused by population growth, rural-urban migration and communication – can be solved by the concurring division of labour.[3] But in the present day Third World, characterized by many external and internal handicaps, the role of division of labour is highly restricted.

Sex Ratio

Table 4.3 shows the past trend in the sex ratio in India (defined as number of females per thousand males) and its future projections. According to the 1981 census data, the sex ratio of India's population is 935 females per 1000 males – that is, there is a deficiency of 65 females per 1000 males. Normally, the sex ratio in a population should be around 1000, the deviance of sex ratio is a social fact that requires a sociological answer. Biologically, about 105 male babies are born for 100 female babies. And since the biological chance of dying is at each age higher for males than for females, one expects that the total population will contain more or less equal number of persons of both sexes. Therefore the question arises why in India proportion of females is so low, and declining – it is only in the last decade that the sex ratio has shown some improvement.

Theoretically, the overall sex ratio is determined by (*a*) the sex ratio at birth, (*b*) the fertility level, (*c*) the mortality differentials, (*d*) the migration differentials; and (*e*) the errors in data. The reasons for the low sex ratio in India are high fertility, higher female mortality, and errors in data; the other two causes are not evident. And mainly it is the higher mortality of females that explains why there is a significant imbalance in the sex composition of population. Till the second part of the decade 1971-81, expectation of life at birth was higher for males than for females: this situation was caused by the following five major factors: (*a*) neglect of female babies; (*b*) high maternal mortality; (*c*) rigid stratification based on age and sex, granting higher status to men; (*d*) poor conditions of living which affected women more than men due to various socio-cultural reasons; and (*e*) female infanticide. At present the life expectancy at birth is somewhat higher for females than for males, but even now females have relatively higher mortality during the childhood and the reproductive period. Female infanticide is no more practised – only in some remote areas it is still observed. But sex differences in child care and child rearing practices are still very significant. The Registrar General, India has projected that in the future sex ratio will improve; the projections are based on the assumption that in the projection period, 1981-2001, expectation of life at birth will increase from 54.1 years to 64.1 years for males, and from 54.7 years to 64.7 years for females (the gap between the sexes will remain constant).[4]

TABLE 4.3: **Sex Ratio in India**

Year	*Sex Ratio*	*Absolute change*
1901	972	--
1911	964	−8
1921	955	−9
1931	950	−5
1941	945	−5
1951	946	+ 1
1961	941	−5
1971	930	−11
1981	935	+ 5
1991	940*	+ 5
2001	943	+ 3

* Medium projections.

Source: Census of India 1981, *Provisional Population Totals*, Paper-1 of 1981, Registrar General & Census Commissioner for India, p. 61; and the Census of India, 1981, *Population Projections for India 1981-2001*, p. 13.

The demographers know the causes of imbalance in sex ratio but they have never tried to know seriously anything about its consequences for the social and cultural dynamics. There is a need to have a systematic understanding of how Indian society has reacted to this imbalance, *i.e.*, to know that if the causes of imbalance in sex ratio were absent would the Indian society have behaved in any different way. Data show that there are significant differences in the sex ratio of the various religious communities in India. Does it have any implication for social behaviour? At present, there are some significant differences between the southern and the northern states with respect to sex ratio as well as status of women. In the southern states, if the sex ratio is higher female autonomy is also higher than in the northern states. What is the nature of the relationship between the two? Has sex ratio been determined by the status of women, or has the sex ratio been a cause of the relative status? These are interesting questions that the new social demographers may attempt to answer.

Age Structure

Age structure is one of the fundamental characteristics of a population which determines its growth potential, needs and vitality. It greatly affects the birth and death rates; dependency ratio, *i.e.*, the ratio of the workers to the non-workers; ecological adaptability; migration rates; and many other socio-demographic processes and structures. Oftentimes, the age structure of a population is measured by the following:

1. Percentage distribution of population by age.
2. Mean – or median – age of population.
3. Youth dependency ratio and the old age dependency ratio: Youth dependency ratio is obtained by computing ratio of children(in the age group 0-15 years) to the working-age-population (15-60 years) and multiplying that by 1000; and the old age dependency ratio is computed by dividing old population (in the age group 60+ years) by the working-age-population and multiplying that by 1000. Sum of these two ratios is called the dependency ratio.
4. Index of aging which is obtained by dividing percentage of population aged 60 and over by percentage of population aged 0-14, and is expressed in percentage form.
5. Age pyramid: This is a graphical construction of age distribution of a population which displays the figures for males and females on the two sides of the vertical axis – males on left and females on the right side of this axis (Fig. 4.1).

Age structure depends on the past trends in fertility, mortality and migration. In absence of migration, there are normally three types of pyramidal structures. First, in the populations characterized by high fertility and high mortality (pre-transitional state) there is a broad base, and an acute reduction in population by age; the broad base signifies high fertility, and the acuteness of fall in the age-specific-population indicates high mortality. Second, in the populations which are undergoing demographic ransition and which are

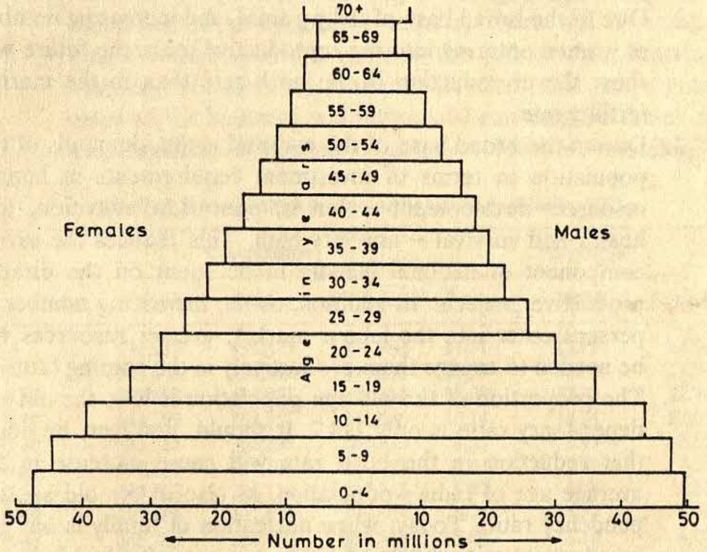

Fig. 4.1: Age pyramid of India, 1981

marked by high fertility and moderate or low mortality, the base is enlarged further – due to improved chance of survival of infants -- and the fall in age-specific-population is less acute. Finally, in the post-transitional populations, showing a 'low balance', *i.e.*, a balance between low fertility and low mortality, the base of the age-pyramid is narrowed and the pyramid for the age-specific-population is rather steep. Migration can distort the shape of an age-pyramid and cause bulging and contraction at the ages affected by net immigration and net outmigration respectively. For example, swelling out of the working ages for males is a common feature of age-pyramids of the cities in many countries. Furthermore, fluctuations in the number of births and deaths may produce irregularities in the pyramids at the relevant ages.

Table 4.4 shows the age distribution of India's population. Its implications are as follows:

1. Due to high fertility, declining and moderate level of mor-

tality, and absence of significant international migration, there is a high proportion of children in the population. Thus the youth dependency is very high (733.9).

2. Due to the broad base of the pyramid, and increasing number of women entering into the reproductive span, the future will show slower reduction in the birth rate than in the marital fertility rate.
3. Due to the broad base of the pyramid again, demands of the population in terms of investment requirements in human resources development – that is, education, nutrition, and health and survival – are very high. This reduces the saving component of national income to be spent on the directly productive projects. In addition, as the increasing number of persons enter into the labour market, greater resources will be needed to engage them productively in the coming future.
4. The proportion of the old age population is low; the old age dependency ratio is only 114.7. It should, however, be noted that reduction in the birth rate will cause increase in the average age of India's population, as also in the old age dependency ratio. Today, when nucleation of family is on, and an adequate state system of old care is not suitably developed, this trend will produce enormous problems for the aged as well as for the welfare system.
5. The dependency ratio (youth age dependency ratio + old age dependency ratio) is 848.6. Given a certain level of per worker productivity, high dependency ratio implies a low per capita income in the population.
6. Status of women is improving: Now more and more girls are getting education, and an increasing number of them will seek some productive work other than home-making when they enter into working ages. So the demand for jobs and productive opportunities will rise faster than simply due to the longitudinal impact of broad based age pyramid. Increasing demands, on one hand, and scarcity of productive resources, on the other, may produce many types of socio-cultural tensions and conflicts.
7. There will be greater division of land in the rural areas in the future, causing reduction in the scale of living for many. There will be faster growth of labourers, in particular, who cannot be observed in local agricultural and non-agricultural

sectors – they will migrate to cities, and further inflate the unorganized sector.

8. Under the impact of the family planning programme, and the advancing of existing birth cohorts, there will be some increase in the marriage rates in the future. And marriages, coupled with growing family nucleation, will cause greater demand for housing, and household consumption items such as televisions, refrigerators, furniture, video, automobiles, etc.

TABLE 4.4: Age Distribution of Population of India, 1981.

	Population			*Percentage*		
Age Group	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*
0-4	970,857	495,875	474,982	14.17	13.99	14.36
5-9	921,455	474,304	447,151	13.45	13.38	13.52
10-14	827,690	433,036	394,654	12.08	12.22	11.93
15-19	694,593	362,957	331,636	10.14	10.24	10.03
20-24	585,718	300,895	284,823	8.55	8.49	8.61
25-29	509,833	259,106	250,727	7.44	7.31	7.58
30-34	443,458	226,112	217,346	6.47	6.38	6.57
35-39	391,204	201,695	189,509	5.71	5.69	5.73
40-44	345,288	180,760	164,528	5.04	5.10	4.97
45-49	298,028	158,424	139,604	4.35	4.47	4.22
50-54	243,089	129,875	113,214	3.55	3.66	3.42
55-59	195,090	103,082	92,008	2.85	2.91	2.78
60-64	154,637	79,968	74,669	2.26	2.26	2.26
65-69	115,034	58,906	56,128	1.68	1.66	1.70
70 +	155,616	78,848	76,768	2.27	2.23	2.32
All	6,851,590	3,543,843	3,307,747	100.01	99.99	100.00

Source: As in Table 4.1.

Marital Status

Demographically, there are two important aspects of nuptiality in India: (*a*) low age at marriage; and (*b*) universal marriage, *i.e.*, a very low incidence of celibacy, especially among the females. According to the results of the 1981 census, average age at marriage during 1971-81 was 18.32 years for females, and 23.27 years for males; 84.14 percent of all the females in the age group 15-44 – the reproductive span – were non-celibate, *i.e.*, married, widowed, divorced or separated.[5] Moreover, 88.44 per cent females in the age group 20-24 years, and 94.33 per cent in the age group 25-29 years, are 'currently

TABLE 4.5: **Percentage of Married, Widowed, Divorced or Separated Population in *Selected Age Group by Sex, 1981.***

Age Group	*Male* Female	Total M	Total W	Total D/S	Rural M	Rural W	Rural D/S	Urban M	Urban W	Urban D/S
All ages	Males	42.03	2.43	0.23	42.25	2.71	0.26	41.35	1.56	0.12
	Females	*45.80*	*8.06*	0.42	46.49	8.23	0.45	43.46	7.46	0.32
10-14	Males	2.63	0.02		3.11	0.02	0.01	1.00	0.01	
	Females	6.59	0.03	0.03	7.82	0.04	0.04	2.17	0.01	0.01
15-19	*Males*	*12.32*	*0.09*	0.07	14.75	0.11	0.09	5.56	0.03	0.02
	Females	43.47	0.21	0.42	48.92	0.23	0.50	27.89	0.13	0.19
20-24	Males	43.17	0.38	0.31	49.00	0.46	0.39	29.52	0.17	0.10
	Females	88.44	*0.69*	0.82	88.37	0.75	0.94	73.47	0.53	0.48
25-29	Males	77.27	0.78	0.47	80.96	0.95	0.57	68.01	0.37	0.20
	Females	*94.33*	1.50	0.88	95.35	1.59	0.98	91.40	1.24	0.61
30-34	Males	91.05	1.34	0.51	91.74	1.60	0.62	89.26	0.67	0.25
	Females	94.81	3.12	0.87	95.07	3.22	0.93	93.99	2.81	0.69
40-44	Males	93.45	3.31	0.50	92.96	3.80	0.58	94.86	1.89	0.28
	Females	87.81	10.86	0.78	88.00	10.83	0.79	87.13	10.98	0.74
15-44	Females	80.48	2.92	0.74	82.84	3.04	0.82	73.35	2.54	0.52

M = Currently married person
W = *Widowed* person who has not been married again
D/S = Divorced or separated person
Source: Census of India, 1981, *Key Statistics Based on 5 percent Sample Data*, Registrar General and Census Commissioner, India, p. 10.

'married'. Table 4.5 shows some data on percentage of married, widowed, divorced or separated population. It shows that in India most of the persons remain currently married till the end of the reproductive period; percentage of widowed, divorced or separated persons in the reproductive period is low. This fact implies that the two intermediate variables of fertility–age of entry into sexual union and proportion married – have positive values, and they explainpartly why fertility is high. However, the latest projections prepared by the Registrar General and Census Commissioner, India, show that in the future the proportion of married females in the reproductive span will decline (from 80.48 in 1981 to 73.64 in 2001), and, therefore, general fertility rate will decline faster than the general marital fertility rate.

Literacy

Literacy is another fundamental characteristic of human population. As an index, it shows an aspect of the quality of life; as a social condition, it determines many forms of human behaviour. According to 1981 census, percentage of literate persons in Indian population is only 36.23; they are those 'who can read and write with understanding' – literacy should not be equated with education. This shows a significant improvement over the literacy rate of 1901 when it was only 5.35 per cent. Table 4.6 presents some data on progress of literacy during 1901-1981. The data show the progress of literacy during 1901-81, and the difference between the literacy rates of males and the females.

TABLE 4.6: **Progress of Literacy, 1901-1981**

Year	*Percentage of literates to total population*		
	Persons	*Males*	*Females*
1901	5.35	9.83	0.69
1911	5.92	10.56	1.05
1921	7.16	12.21	1.81
1931	9.50	15.59	2.93
1951	16.67	24.95	7.93
1961	24.02	34.44	12.95
1971	29.46	39.45	18.72
1981	36.23	46.89	24.82

Source: As in Table 4.5.

When we look at the educational composition of the literate population we find a particularly depressing situation. Table 4.7 shows that about one-third of all the literate persons are those who can only read and write but who are without any educational level; and another one-third have only primary education. Only 4.42 per cent males, and 2.96 per cent females, have the education level 'graduate and above'. These data show that the census literacy rates are overestimates of the educational rates, especially for females, and for rural areas. Though it cannot be assumed that those who lack the quality of being literate or educated are necessarily ignorant or lacking in rationality, illiteracy is a serious handicap in the modernizing world. Education determines most aspects of social behaviour, and demographic behaviour (*e.g.* fertility, mortality, marriage, migration and social mobility) in particular. Improving education is therefore essential for solving the population problems, especially the problems of demographically pre-transitional societies where it will make men more rational and conscious of his rights and welfare.

TABLE 4.7: **Percentage Distribution of Literates by Sex and Completed Level of Education, 1981**

Educational level	*Males*			*Females*		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
Literate without educational level	29.38	33.75	21.00	33.42	39.37	25.91
Primary	30.29	33.26	24.58	33.98	37.47	29.59
Middle	17.98	17.56	18.79	16.78	15.04	18.98
Matriculation or higher secondary	17.27	12.90	25.66	12.48	7.05	19.31
Non-technical diploma or certificate not equal to degree	0.09	0.09	0.08	0.09	0.08	0.12
Technical diploma or certificate not equal to degree	0.57	0.37	0.94	0.29	0.25	0.34
Graduate and above	4.42	2.07	8.95	2.96	0.74	5.75

Source: As in Table 4.5.

According to the census data, only 38.45 percent children in the age group 5-9 years, and 50.45 in the age group 10-14, are attending schools.[6] This presents a very pessimistic picture of the educational development in India. Further, there are very significant imbalances in 'proportion attending school' between males and females, urban and rural areas, and the states. At the all India level, 44.33 percent males in the age group 5-9, and 62.07 percent in 10-14 years, are attending school; the corresponding percentages for females are 32.21 and 37.47 respectively. Likewise, while in the urban areas 58.69 percent children in the age group 5-9 years, and 71.58 percent in 10-14 years, are attending schools, the corresponding percentages for the rural areas are only 32.95 and 44.27. Among the states, Kerala shows the maximum percentage of children attending school/college; 85.96 per cent children in the age group 10-14 years in Kerala are found to be attending school/college. On the other extreme, in Rajasthan, U.P., and Bihar school/college attending children constitute only about 40 percent of all the children in the age group 10-14 years. The causes of the educational backwardness are many, but they all result basically from the cultural and economic backwardness, and the infrastructural deficiencies, which are, in turn, reinforced by illiteracy, low productivity, low social mobility syndrome, and the culture of poverty.

Religion

India is a multi-religious land where almost all major religions of the world are represented. But Hindus are in an overwhelming majority – they constitute 82.64 per cent of the whole population.[7] They are followed by Muslims, who are 11.35 per cent; Christians, who are 2.43 per cent; and Sikhs, who are only 1.96 per cent (Table 4.8).

TABLE 4.8: **Distribution of Population by Religion, India 1981**

Religion	*Population (million)*	*Percent of total Population*
Total population	665.29	100.00
Hindus	549.78	82.64
Muslims	75.51	11.35
Christians	16.16	2.43
Sikhs	13.08	1.96
Buddhists	4.72	0.71
Jains	3.21	0.48
Other religions	2.77	0.42
Religion not stated	0.06	0.01

Source: Sharma, O.P., 'Growth Trends', *Seminar*, 322, June 1986, pp. 28-40.

Table 4.9 exhibits trends in the decadal growth of the size of the adherents of four major religions in India for the period 1901-81. It reveals that barring the decades 1901-11 and 1941-51, Muslim population has always grown faster than the Hindu population. There could be many reasons for this such as differential mortality, conversions, differential fertility, migration, and errors in data. But in the recent past, *i.e.*, in the post-Independence period fertility differentials have been found to be major causes of the differences in the growth rates of the different religious communities. The temporary decline in population of Muslims between 1941-51 is simply due to partition of the country and the migration that followed it. Generally, Christians and Sikhs have grown faster than Hindus and Muslims. Though it is difficult to establish the exact contribution of each of the multiple causes of this, conversion from Hinduism to Christianity, and emergence of Sikh separatism[8] may largely be responsible for more growth rate of Christians and Sikhs respectively.

TABLE 4.9: **Decadal Growth of Adherents of Four Major Communities, India, 1901-81**

Decade	*Total population*	*Hindus*	*Muslims*	*Christians*	*Sikhs*
1901-11	5.75	5.11	3.14	29.87	28.30
1911-21	0.30	0.63	1.23	21.09	6.13
1921-31	11.0	10.77	14.64	33.32	32.04
1931-41	14.22	6.20	18.60	4.22	31.75
1941-51	13.31	27.37	16.48	45.19	54.68
1951-61	21.51	20.73	25.61	27.83	26.15
1961-71	24.80	23.69	30.85	32.60	32.28
1971-81	24.69	24.15	30.59	16.77	26.15

Source: As in Table 4.7.

The characteristic of being multi-religious is an important parameter of the dynamics of social development in India, at least from the following two angles: (*a*) the policies adopted for modernization of the country may or may not be consistent with the various theological paradigms; and (*b*) the constructs through which the religious communities perceive and evaluate change are situated, politically, in the relationship – objective and subjective – between these communities. Moreover, the differences in the levels of socio-economic modernization which the whole world is undergoing may also provide a breeding ground for suspicion, tension and conflict

TABLE 4.10: **Demographic Characteristics of the 14 Larger States of India, 1981**

Sl. No. State	*Population (0008)*	*Growth rate (1971-81)*	*Sex ratio*	*Dependency ratio**	*Percentage of females to total females in age group 15-44*	*Literacy rate*	*Percentage of population of two major communities*	
							Hindu	*Muslim*
1. India	685,185	25.00	933	854	80.48	36.23	100.00	100.00
States								
1. Andhra Pradesh	53,550	23.10	975	829	84.09	29.94	8.65	6.00
2. Bihar	69,915	24.06	946	935	88.56	26.20	10.55	13.08
3. Gujarat	34,086	27.67	942	809	76.29	43.70	5.55	3.85
4. Haryana	12,923	28.75	870	931	80.64	36.14	2.10	0.69
5. Karnataka	37,136	26.75	963	858	76.11	38.46	5.80	5.44
6. Kerala	25,454	19.24	1032	741	60.65	70.42	2.69	7.16
7. Madhya Pradesh	52,179	25.27	941	901	87.07	27.87	8.82	3.31
8. Maharashtra	62,784	24.54	937	914	79.76	47.18	9.30	7.69
9. Orissa	26,370	20.17	981	853	77.42	34.23	4.58	0.56
10. Punjab	16,789	23.89	879	806	69.39	40.86	1.13	0.22
11. Rajasthan	34,262	32.97	919	946	88.54	24.38	5.57	3.30
12. Tamil Nadu	48,408	17.50	977	706	72.66	46.76	7.82	3.34
13. Uttar Pradesh	110,862	25.49	885	946	88.42	27.16	16.80	23.38
14. West Bengal	54,581	23.17	911	739	74.66	40.94	7.64	15.55

* Number of persons in the age group 0-14 years, and 60 and above per 1,000 persons in the age group 15-59 years.

Source: As in Table 4.5 and Table 4.7.

between the majority and minority communities. In this situation, the elite in the democratic India have a highly hazardous role to play: how can they attempt to modernize the country without endangering the power equilibrium which gives them sanction to use social power for political purposes?

Needless to say, the processes of change in India may be studied in the context of the above mentioned demographic characteristics. Attempts should be made to examine multiplex relationships between demographic structure and the socio-political processes. It may also be said that structure cannot be ignored in dealing with the problems of population change. Moreover, there are no simple causes of and solutions to the demographic problems of a plural society like India. What may work efficiently in one part of population, may create suspicion, conflicts and tension in some other parts. Some scholars say that India is a multi-religious, multi-lingual and multi-national state. Besides this, there are very crucial regional variations in most of the relevant structures and processes (Table 4.10 on page 85). Therefore, on the face of it, we need a rather socially and regionally differentiated analysis and therapy of the population problems of India, although such a semeiology may oftentimes be in conflict with the demands of the nationalistic values, necessitating a proper balance between the sociological-pragmatic and the utopian- ideological experimentation.

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FIVE

Poverty and Population

Poverty as a state of economic and social deprivation is a fundamental social characteristic of the Third World countries including India. Initially, in 1960s when national family planning programme were undertaken in the developing countries they aimed at lowering the fertility rate and thus reducing population growth in order to improve the standard of living and achieve developmental goals. The planners thought that there is a negative causal relationship between population growth and development. It was assumed that at the macro level, population growth – which is an exogenous technical factor, produced by fall in mortality – increases consumption demands of population and, therefore, it reduces saving and investment needed for economic growth; its implications were supposed to be particularly disastrous for the change in per capita income.[1] And at the micro level, a large family size implies potentially reduced availability of family resources on per capita basis, and reduced life chances for the offspring. However, in the next decade, by the time of Bucharest Conference (1974), it became clear that fertility cannot be reduced in the absence of socio-economic development; researches showed that high fertility is a consequence and not a cause of the economic backwardness. And now the thinking is that the population programmes are very crucial to socio-economic development and that the family planning programmes can work; and they exert influence on fertility which is independent of development. In this context, the present chapter focuses on the relationship between poverty and population growth. Specifically, it aims at: (*a*) raising some issues about examination of poverty in India; and (*b*) building a contextual model of reproductive decision making.

Aspects of Poverty of India

The importance of empirical investigations to examine the various issues – determinants, consequences and solutions – related to the problems of regional, sectoral, and social backwardness cannot be overemphasized. Poverty – *i.e.*, economic backwardness – and pauperization – *i.e.*, dependence on others for existence - are the two fundamental sources of most of the crises of contemporary India. This has been shown that the resources used to eliminate poverty are ultimately economically productive.[3] We know that majority of the poor people in the developing countries including India live in rural areas, and, therefore, the eradication of poverty lies in rural development. It is notable that in the 'New Twenty-Point Programme' of Prime Minister Smt. Indira Gandhi, announced in a historic radio broadcast on 14 Jan. 1982, 17 points out of 20 related to the issues of rural development. In the context of the Five Year Plans and particularly the 'New Twenty Point Programme' great efforts have been made in this direction. However, the achievements of the various schemes launched to improve the conditions of rural poor – through Small Farmers Development Agency (SFDA), National Rural Employment Programme (NREP) and Integrated Rural Development Programme (IRDP), etc. - are far from being success stories.

Researches show that the number of beneficiaries is much less than stipulated, and not all the beneficiaries have really been lifted above the poverty defining line. Thus, a basic aim of research today need to be to understand the nature of poverty in rural India. And the question need to be attempted mainly from a socio-psychological perspective, *i.e.*, to know what is living in a poverty situation, who are poor, how many are they, is there willingness to grow, what are the barriers to and facilitators of growth, and what is the role of the non-poor people in the programmes to remove poverty? Needless to mention, the results of such works can be of immense help to policy planners in evaluating and modifying the strategies to help rural poor, and also in reflecting on the theories of poverty. It is obvious from the nature of questions posed that the major thrust of investigation should be on understanding the concrete poverty in concrete terms – that is, by looking at the reality in dispassionate intellectual manner and remaining unbiased by the present day dominant paradigms, all of which have their own political philosophies in the background. This may be done not so much to show the inadequacies of the various paradigms but to learn from all of them regarding the multiple aspects of the social conditions. In other words, one need to study the problem in totality and from applied theoretic perspective. This is a fact that the available classical and neo-classical economic theories of poverty are inadequate to provide a concrete, complex and historical analysis of the problem. It is only when the different dimensions of poverty in a given space and time are understood that a proper attempt to theorize it can be made.

In view of the above perspective, then, the study of poverty has twin implications for theory and practice. This study will generate a 'middle range theory' of poverty in the rural Indian setting and help the planners in identifying some crucial gaps in designing and implementing social policies for the rural poor. This will also yield and test hypotheses about poverty in both phenomenological and structural contexts, and show what kind of policies and approaches are likely to succeed in alleviating rural poverty.

Poverty is a value-loaded construct which cannot be defined precisely for all cultures and for all levels of analysis of economic development and consciousness. One description of poverty that has been used in the national planning in India is as follows:

'Poverty is both an absolute and a relative concept. When we talk about the elimination of poverty as a goal of development, what we have in mind is not a relative concept but a definition of what could reasonably be considered as an absolute level of poverty. This poverty line has to be defined in terms of a minimum level of consumption. Available estimates show that at 1960-61 prices, private consumption of Rs. 20 per capita per mensem would be needed to assure a reasonable minimum level. In present day prices, these figures will have to be multiplied by a factor of about 1.86. At present over 220 million people are estimated to be living below this level. The size of the problem and absolute numbers vary from state to state. The urban poor, to a large extent, are an overflow of the rural poor. The main attack will, therefore, have to be on rural poverty. A little less than half of the rural poor are landless labour and a little more than half are small farmers and marginal farmers. The two categories overlap since small farmers also work as agricultural labour.'[4]

In the Sixth Five Year Plan the poverty line was fixed as Rs. 3,500 per family of about five persons, for the purpose of the IRDP. In the

Seventh Plan it has been raised to Rs. 6,400. It may be said that the Sixth Five Year Plan had set an ambitious target – to reduce the percentage of the population below the poverty line to 30 by 1984-85 and to less than 10 by 1994-95. According to the official reports 'the rural poverty ratio, which moved within the narrow band of 48 to 52 per cent between 1960-61 and 1979-80, sharply came down by 14 percentage points during the Sixth Five Year Plan.'[5] And at the same time currently over 222 million persons are estimated to be poor.

According to Rao and Vivekananda, the macro-approach to study poverty is inadequate. Since the phenomenon of poverty and the social mechanisms which give rise to it are not same everywhere their study needs a basic disaggregated approach[6]; the explanation of poverty should depend on its composition and context. It may be noticed that while the majority of researches in the developed countries have used poverty as an ordinal concept of relative deprivation the researches in the developed countries have used poverty as an ordinal concept of relative deprivation the researches in the developing countries have focused mainly on the absolute poverty through 'vital minimum' and 'basic needs' approaches.[7] The reason is that unlike the rich countries where poverty refers to social comparisons and inequality of access to cultural, economic and social possibilities of the society, poverty in the developing countries is linked with low productivity and unemployment, largely in the traditional agricultural sector.[8]

Another important issue in research on poverty is to answer whether poverty is a scalar or a vector concept, *i.e.*, to ask – do we require unidimensional or multidimensional scales to measure poverty? One can say that for international comparisons, or for interpreting the trends at aggregate level, it may be sufficient to measure poverty objectively through a single criterion such as income level approach because at the aggregate level it may prove to be a good predictor of the socio-cultural standards and life-chances of the people; but at the micro-level the different aspects of poverty – income, food and non-food consumption, health, security, education, work-and life-satisfaction of various kinds, social participation, and sense of significant membership, etc. – may be trending in different directions or interacting in several complex ways which need to be examined separately. And, therefore, at this level accumulated deprivation of welfare problems – that is, the distribution of poor by number of problems they face regarding health, employment, economic resources, knowledge and education, family and social relations, housing and local environment, leisure, security and political resources – rather than single component approach be used.[9] The issue of poverty may be further complicated because the poor are known to establish their own sub-cultural groups and develop their own behavioural and consumption norms as a defense mechanism against social deprivation, and, thus, they may generate negative patterns of reactions.[10]

There is no dearth of literature on the causes of poverty. But most of the investigations made by social scientists are influenced by the dominant ideological considerations and myths of their times; they are guided by the frameworks of their respective disciplines such as sociology, economics, political science, and psychology. This is the reason why they tend to raise issues about few selected dimensions of poverty and not about the 'total concept of poverty'. The different disciplines do not pay the same amount of attention to the problem nor do they approach the problem in the same way. Nevertheless, poverty is a concrete problem and its causes are not unintelligible or abstract; they are systemic. In this regard the following observations made by Andre Beteille on the studies of inequality are noteworthy:

> 'Disciplines with a strong empirical bias such as sociology, education and, to some extent, economics have made the study of inequality their point of departure, whereas jurisprudence, with its tradition of deductive reasoning, tends to begin with considerations on the nature of equality. Economists have devoted much attention to developing reliable techniques for the measurement of inequality; these techniques often appear formidable to the uninitiated, but their outlines are not difficult to understand or explain. The lawyer in his turn seeks to achieve a balance between different conceptions of equality through a complex chain of reasoning, but the basic principles of this reasoning can be made intelligible to the laymen.'[11]

In brief, we can mention two antagonistic theories of poverty: marginalist theories, and structural theories. In the marginalist theories, the explanation of poverty is sought at the micro level, *i.e.*, at the level of an individual poor. Here the onus of poverty is supposed to lie with an individual: a poor person is poor because he himself has some deficiencies. The adherents of such theories tend to ignore the role of institutions, or treat them as given. The structural theories, on the other hand, focus on the institutions and the organizing models of social system – that is, they explain poverty in terms of positions, skills, organization and awareness of the poor in the social structure, and demands of the system. We feel that at analysis of a real issue the marginalists and the structuralists complement each other; and an adequate theory of poverty need to be a synthetic theory which would provide testable hypotheses at both individual and societal levels. Poverty is a dual social phenomenon which is caused by individual and social deprivations in a synergetic fashion. Poverty is both a personal trouble and a social issue, and it has the two main circular and cumulative causes: personal maladjustment, and ineffective demand.

The Lessons of the Past Research

In the previous section, we have discussed the antipoverty measures adopted by the government of India. We have also said that the evaluation studies show that these programmes are biased and they benefit largely the already better off sections of the rural community; oftentimes political commitment to implement the programmes is lacking, and absence of structural changes severely limits their potential for lifting the underprivileged sections of villages. To quote Joshi,

> 'The decisive shift from institutional to technocratic approach since 1965 marked the rise and strengthening of intermediate class as within agriculture and these changes little benefited the poor. Instead they contributed towards capitalist mode of production under which the traditional security under the patron-client relationship was adversely disrupted. These developments are attributed to the fact that rural poor are neither articulate nor organized at the political level to exercise influence on land reforms and development policy.'[12]

Further, failure of land reforms, administrative shortcomings, influence of the local elite who wield considerable influence at the decision making in government, ignorance and lack of organization among the poor, faction fights, and free play of market forces are some of the reasons why the development measures failed in giving to the poor what they had promised. Litigation is too expensive and even if the poor know that the law is on their side, they do not have sufficient resources to approach the court. 'The poor do not know how to obtain any benefit from development programmes that in reality are meant to help them. Apart from the fact that they do not have securities to furnish for obtaining loans, the procedural difficulties in obtaining loans from credit agencies largely discourage them, instead they turn to local moneylenders who offer credit in a familiar, friendly way reducing lengthy paperwork to just putting a thumb-impression on a stamped sheet'.[13]

In a recent study of rural development, Saxena has examined poverty in the framework of elite theories. He found that in contemporary India inequality is rooted largely in an unequal access to the benefits of the developmental programmes. He observed:

'Elite and non-elite constitute two separate classes. . . . Both classes have antagonistic ideologies, perceptions and interests. Elite intend to strive for power position to seek maximum benefits. In the present kind of changing society, the nature of exploitation of poor by elite is also changed. Today elite, using their superior position, grab maximum benefits, primarily meant for poor. This strengthens elite-status and position on one hand, and accelerates the conflict between the two classes on the other. In place of direct exploitation of poor in forms of bonded labour, surplus generation, high rate of interest, social and cultural boycott, indirect exploitation in the form of high dependency on elite for gaining government benefits, employment, water for irrigation, etc. have taken place. In fact, strategies adopted for establishment of egalitarian society have little effect on the status of elite class. Their ways of exploitation have of course changed, but exploitation is still there.'[14]

Maheswari[15], and Mathur have stressed on the importance of participation by the poor in the development process. They articulate that non-participation of poor in development has prevented them from gaining from the development programmes. 'It is not easy for the poor to organise and to raise their voice against the vested interests that have exploited them and kept them down in their present low positions. A point to remember here is that the poor do not constitute a single category with all the people below a particular income level having a common objective in fighting the affluent. Individually, a majority of the poor is so heavily dependent upon the rich (usually the money-lender), that protest as a way of demanding their share in development may not be considered most practical thing in the circumstances.'[16] And Saxena and Sharma have argued that the very conceptions of development are shaped by the social structure; and since the poor are not psychologically and economically ready to enjoy the benefits of development the facilities are engorged mostly by the better off sections of a community.[17]

To use the Galbraith's classification of poverty in *Affluent Society,* while the urban poverty is the case of poverty defined by individual's inability to participate in economic life, rural poverty is the insular poverty in which case poor are frustrated by their environment and their relationship with the non-poor. As shown by Rao[18], there are three important barriers in rural development: *(a)* non-percolation of development; *(b)* weak economic base below the viability threshold; and *(c)* additional social exclusion for members of socially disadvantaged groups. The government schemes operate only as a delivery system to provide resources and services to the backward areas and groups and they are inadequate. Due to misappropriation of funds by bank officers, block officers and other functionaries of the development agencies only a small fraction of funds really reaches the target groups. The resources created through the IRDP are insufficient and unstable and the social elite (non-poor) use their power and ingenuity to appropriate the bulk of funds and other benefits. The coverage of the target groups is also low and therefore only a small proportion of small group of beneficiaries in a large target group can cross the poverty line.[19] A number of studies have identified flaws in the development-oriented programmes in rural India.[20] The major findings of these studies are that the planners have overestimated the gains of these programmes and there is a very high extent of 'leakages'. Proper implementation of land ceilings and minimum wage Acts; family planning; employment generation schemes, preferable in the non-agricultural sector; special programmes for scheduled castes and scheduled tribes; organization of rural poor; and a general process of awakening among the labourers are required to benefit rural poor, not in isolation but in combination. All these points have to be incorporated in a single well-integrated programme, and the government on its own should aim at changing consciousness, beliefs and myths of the poor and provide them a healthy organizational base. It is notable that in the present political and economic conditions, subsistence constraints, and constraints of health services, knowledge and production credit, the poor 'are forced to place themselves at the mercy of the relatively richer few in the village' and they cannot build their own effective organization. It is 'only a voluntary organization or a public sector corporation, that has to speak on behalf of the rural poor'.[21]

It should also be noted that India has been a poor country for hundreds of years due to invasions and colonization. It continues to be poor under the influence of the World System[22] and the functional nature of poverty.[23] Poor, specially the agricultural labourers and the scheduled castes, are not in a position to organize. Poverty and unemployment force them to cut into each other's job opportunities instead of presenting a united front.[24]

Two vital conditions which have so far remained ignored in researches on poverty in India are the cognitive conditions of poor and the role of non-poor in programmes to alleviate poverty. There is now sufficient evidence that certain psychological variables such as achievement motivation play significant role in development.[25] We feel that such factors are crucial and they pose major challenges, particularly in the case of *insular poverty* – that is, the poverty due to unfavourable environmental factors. It is also to be seen how non-poor in a local setting react to schemes launched for the betterment of the poor that are bound to have logical implications for the gap between 'haves' and 'have-nots'. It is an obvious truth that poverty cannot be discussed in isolation from more general questions of inequality: it is only within the context of a general theory of stratification that the description, analysis and explanation of poverty is meaningful. Poor are an inevitable part of a rigid and an extreme stratification system. It is both a cause and a consequence of inequality. As a cause it contributes to maintenance of 'elite' status as it serves the interests of the 'non-poor'; as a consequence, it is produced by the systems based on some principles of hierarchy.

As we have already mentioned, we do not have a concrete theory of poverty that can enable us to derive conceptual apparatus. Aside from the multifaceted nature of the phenomenon of poverty, our social scientific classics have been developed for explaining the communalities in a wide range of human phenomena and not for specific concrete social facts as such. In this situation we agree with the position taken by Coser[26] that 'one may think of the investigation of specific problems in social analysis as yielding best results when not just one tool, but a set of tools, is employed'. This implies that there are various relevant socio-cultural aspects of the problem, *e.g.*, growth objectives of the poor (are they structured, and what is their strength?), values, organization of poor, and relations between poor and non-poor groups, *etc*. To explain the first aspect an appropriate tool of research may be the stage model of decision theorists, to explain the second aspect we may use the 'culture of poverty' theory of Lewis, to explain the third aspect we may use Weber's multidimensional stratification theory of class, status and party situations, and to explain the fourth aspect we may seek significant help from the Marxist theory of relation between labour and capital. In other words, when we say that we lack an appropriate theoretical framework, it is not a nihilist's view, rather we want to maintain that there is no single theory which can yield all that we want – we need several theories in order to understand poverty situation adequately. In this context, the most significant decision is not to select a single best theory, but to select some important dimensions of the problem for theorizing.

In examining poverty we should, therefore, look at both *internal* and *external* environments of poverty. Our internal environment concept refers to material and non-material cultures of the poor, *i.e.*, the socio-economic and demographic resources of the poor, and their values, aspirations, achievement needs, etc. The external environment concept refers to the 'non-poor' in the local setting, structure and functions of the larger system of which poor are a subsystem, and the general economic and technological conditions. Poverty, we believe, is an outcome of the interaction between these two – internal and external – environments. In this framework we also need to bring out *primary* and *secondary* causes of poverty. Factors, which directly cause poverty, such as unemployment, large family size, malnutrition, illiteracy, etc., are the primary causes of poverty, and the socio-cultural factors which lead to development of these primary causes of poverty are secondary or second order causes. We may still use the traditional concepts of individual and extra-individual causes of poverty but they need to be brought within the framework of internal and external situations. Poverty may be measured by economic and perceptive criteria. While the economic definition of poverty are good for quantifying and objectifying the status variables, the perceptive definition helps in tracing the social categories 'poor' and 'non-poor' to their roots in the village organization and culture, and in studying family histories and personal situations in their interaction with the village economy.

Poverty and Population Control: A Decision Problem

In the above section, we have shown that there are various aspects of the problem of poverty such as assets, objectives of the poor, values, organization, and the relationships between poor and non-poor groups. Among them, the objectives and values are of great relevance in examining the psychological dimensions of the reproductive behaviour of human population; the other two – organization, and relationships between poor and non-poor groups – explain why there is no change in social structure but they are only of insignificant importance in social demography. Those who believe in 'diffusion theory' of social behaviour do certainly emphasize the social relationships but even for them the objectives and values remain of primary importance because it is only through them that relationships can produce behavioural changes.

Moreover, Indian data do not show that the Indian family planning programme has developed purely in a non-coercive and diffusionist framework of modernization theory.[27] In order to explain the progress of the programme in India, in increasing the family planning acceptance level, it is legitimate to develop the following four postulates:

1. There is a great and constantly widening gap between the political and bureaucratic elite, who take decisions at Central level, and the masses in India.
2. Among the national elites there is a strong western bias in development planning which is caused by an ambition for coming up to the advanced Western countries (First World).
3. Normally, the national elite, due to their liberal democratic context and anti-imperialistic ideological system, desire to modernize (and Westernize) the country primarily through a mix of planning and voluntarism.
4. When the planning and voluntarism fail – mainly due to traditional, ex-colonial, backward and dependent structures at lower levels – the elite operating under international pressure and in frustration may resort to the technique of rationalized *ad hoc* coercion. But due to the same reasons, which made planning and voluntarism ineffective, and dependence of the elite on them for legitimacy of power, coercive methods cannot be sustained. Therefore, the achievements will not follow

a well defined logistic curve that we expect under normal *laissez faire* circumstances, and they will be marked by temporary ups and downs; this curve will not exhibit the clear cut soft and the hard cores and the rejectors, or the hierarchical structural differences between early, middle, and late acceptors of the innovation.

Family planning data show that family planning acceptance in India is marked by irregular development in which there are two main years of particularly high yield: 1972-73 which is known for 'mass vasectomy camps', and 1976-77 which is known for Emergency effect (Table 5.1). Data also show that in the mass vasectomy camps, or in general in the periods in which acceptors' statistics are encouraging participation of the weaker sections and the rural (poor) is disproportionately high (Table 5.2). Therefore, it may be said that in the Indian context, family planning acceptance among the poor should be understood contextually and phenomenologically, rather than in standard diffusion terms. With this background, the following qualitative analysis attempts have been made to show the parameters of family planning decision among the poor.

TABLE 5.1: **Family Planning Acceptors by Methods—All India (in' 000)**

Year	*Sterilizations*	*I.U.D. insertions*	*Equivalent C.C. users*	*Total acceptors*	*Births averted since 1956*
1956-66	671	813	582	2066	599
1966-67	887	910	465	2262	1151
1967-68	1840	669	475	2984	1995
1968-69	1665	479	961	3105	3253
1969-70	1422	459	1509	3390	4869
1970-71	1330	476	1963	3769	6787
1971-72	2187	488	2354	5029	8928
1972-73	3122	355	2398	5875	11460
1973-74	942	372	3010	4324	14452
1974-75	1354	433	2521	4308	17482
1975-76	2669	607	3528	804	2062
1976-77	8261	581	3692	12534	24334
1977-78	949	326	3253	4528	29384
1978-79	1484	552	3469	5505	34312
1979-80	1778	635	3069	5482	39221
1980-81	2053	628	3809	6490	44154
1981-82	2792	750	4553	8095	49259

Source: Department of Family Welfare, Year Book 1981-82 Govt. of India, 1983.

TABLE 5.2: **Rural/Urban Break-up of Methods in India, since 1966-67**

Year	*Methods*					
	Sterilizations			*I. U. D.*		
	Rural	*Urban*	*Percentage of rural to total*	*Rural*	*Urban*	*Percentage of rural to total*
1966-67	512322	375046	57.7	542228	367498	59.6
1967-68	1135334	704477	61.7	394027	274952	58.9
1968-69	1068221	596596	64.2	286181	192550	59.8
1969-70	794325	627793	55.9	267982	190744	58.2
1970-71	761131	568783	57.2	279622	196226	58.8
1971-72	1436770	750566	65.7	312134	176234	63.9
1972-73	2141003	873730	71.0	200138	124997	61.6
1973-74	448556	323318	58.1	218336	103111	67.9
1974-75	811126	503657	61.7	288778	132643	68.5
1975-76	1693749	833572	67.0	394582	154810	71.8
1976-77	5081135	1618078	75.9	402459	162495	71.2
1977-78	483960	450083	51.8	183928	125761	59.4
1978-79	773336	433916	64.1	340789	171536	66.5
1979-80	941781	433561	68.5	375558	203219	64.9
1980-81	1363105	663839	67.2	356668	252607	58.5
1981-82	1424603	640791	69.0	228497	203175	52.9

* Percentage of rural + urban, the total 'figures for which rural/urban break-up is available.

Source: Same as in Table 5.1.

The Theory of Fertility and its Problems

According to the economics of fertility, children may be treated as a kind of consumer durables; it may be assumed that the couples take a rational decision regarding the number of children they should produce. It is believed that all the normal rational couples attempt to maximize total utility coming from children and other consumer goods under the budget constraint. Since there is a trade-off between children and other consumer goods the demand for children is determined by income, costs of children and other goods, opportunity cost, quality of children, and preferences and tastes. And if we assume that reproductive decisions are always rational, there are two explanations of high fertility among the poor. According to one school, large family size reflects the irrationality of decision; and those who produce more children deviate from norm of rationality. It is, therefore, posited that though it is theoretically rational to control fertility, yet the couples in illiterate, rural agrarian societies produce more children which is due to sheer ignorance about the cost of children, and their opportunity cost in particular: they are not aware and conscious of the possible contribution of birth control in social mobility. Properly designed educational and motivational strategies can go a long way to make them aware of the benefits of small family and accept the contraceptive practices. This is, however, a myth. We want to emphasize that both from decision theoretic and development-sociological angles the assumptions of this theory are untenable. Then according to the second school, high fertility may be locally rational; it is a responsibility or social demographer to show which factors make large family economically an optimum decision. In many situations it is at least partly true. But as indicated above it is based on a very strong assumption that the rural poor take highly 'rational' decision, whose validity is yet to be tested. Are the poor really rational? Does this rationality show in other types of behaviour also? Do they make equally rational efforts to change their conditions?

Emerging literature on decision science show that rationality is always a selective rationality, *i.e.*, the nature of rational decision making is not the same for various sections and various people. Rules of decision making depend greatly upon the motivation for and goals of decision. The choice is not always based on full calculation; it may be based on ethical considerations, conventional behaviour, or partial calculation. As a matter of fact, decision based on full calculation may even come last in the hierarchical order of choice; as long as the cost of decision is below some threshold, a person may not move to a higher order choice.[28] The objective of taking a decision is yet another crucial factor on which the whole process of arriving at a decision is contingent. Unfortunately, the demographers and social scientists have not paid attention to it. Although it has been stressed that in modern capitalism characterized by non-familial mode of production the practice of family planning helps in raising socio-economic status, the social scientists have generally ignored: what do the people want in the long run? Researches have not established that all members of the society are very keen to improve their conditions. Are their objectives structured? Are they conscious of it? What is their locus of control? These are few questions which need to be examined. We hypothesize that there are great variations in the goals people set for themselves; and these goals may change over time. Further, in addition to objectives and decision criterion, the outcome of decision will depend on the controllable, uncontrollable and partially controllable activities, and the past decisions sequentially too. An adequate model of reproductive decision making should, therefore, include all these elements in the model explicitly and show their place in decision to accept family planning methods. Life goals and objectives make a person think (or not to think) to adopt family planning methods. If any such thinking is produced, it leads to intention to search, and it is followed by intention to adopt. Adoption is the last step in this anatomical structure of adoption process. Life goals and objectives affect the intentions directly. Finally, when there exists an intention to adopt family planning methods and there is also an opportunity to do so, the outcome is adoption. In this model, the environmental factors are included as the forces which maintain symmetrical relations with personal factors.

Having recognized the need for examining environmental variables – *i.e.*, social structure – and the strength of objective in present context it is postulated that in order for promoting family planning acceptance in rural India – particularly in rural areas of U.P., Bihar, Rajasthan, and Madhya Pradesh – where an inertia in this regard is found – there is a case for programmes to engineer the objectives and act upon the 'culture of poverty' in which majority of rural population is trapped. According to Lewis, it is much more difficult to eliminate culture of poverty than to eliminate poverty; the poor are, psychologically, removed and alienated, ignorant and uninterested, uninvolved and apathetic toward the environment. The poor are least interested in political, ethnic, social and national questions and they lack participation and integration in the social institutions –they are only locally oriented and have weak ego structure and weak impulse control. All these factors play positive functional role and they are the adaptive mechanisms in the culture of poverty.[29] To quote Shanmugam,

'From the foregoing considerations, it is plausible to consider the poor as an individual who is characterized by a set of deprivation conditions. The deprivation conditions induce a state of insecurity or powerlessness in the individual and cripple his freedom to indulge in choice behaviour. The behaviour of the poor is essentially a form of constraint behaviour dictated by the structural properties of the environment. Low socio-economic conditions considered by different investigators so far are confined to economic and material possessions. However, the psychological deprivation conditions such as reflection, dominance, overprotection, over-indulgence, intellectual and social handicaps may also be implicated in the definitions of "poverty" and "poor".'[30]

We feel that there is a need to analyse the aspirations and ambitions so that we can know whether the society has developed institutional mechanisms to help one in enhancing status through fertility regulation or not. If the decision is to be taken under unstructured situation in which the couples are not sure of the means or ends, the strength of motivation to decide will be weaker; in the case of probabilistic decision, many couples will fail to go for optimistic decision. In practical terms, in a village (or in a social class) having no school, no means of non-agricultural employment, no medical facilities, without potable water, no modern media of communication, and lack of cooperative environment, any extension attempt conveying the conduciveness of family planning in raising status is likely to be misconstrued. Thus we suggest the integrative model of reproductive decision making.

A New Contextual Model of Family Planning

The model, presented here, incorporates all those socio-psychological factors which are relevant and which would affect the reproductive decision making process. The model assumes that after a person defines his life goals or/and objectives, several other stages occur (*e.g.*, thinking of adopting), before a final decision to adopt is made. The life goal or objective itself is a function of personal or environmental factors, or a function of the interaction between the two. Whenever there is a change in objectives, it may be considered as due to the change in either of the antecedent variables. For example, personal factors (including demographic characteristics) such as socio-economic status may affect the objectives directly. Similarly, environmental factors may also play their crucial role in determining the objective. Among the environmental factors both objective and subjective factors would play a part in equal amount: here objective environment refers to the environment as it is, while the subjective environment is the perceived world of individual members. Thus, any or both the environmental factors may interact with personal factors in setting the life goals or determining the objectives of an individual (or a couple). It is not that when the life goal is clear or the objectives of life are clearly set, a person (or couple) will naturally adopt a family planning method. A clear and structured objective only indicates that a person is concerned about the usefulness of the family planning methods. He should recognize that family planning practices are the necessary and sufficient conditions for achieving goals in his society. Further, this recognition on the part of the potential users is no guarantee to adoption. In between the two – that is, objectives and adoption – several other stages occur. The first stage, according to our hypothesized model, is the thinking of adopting which brings about several religious and societal barriers. One has to pass through this stage in order to reach the adoption level. A person may be clear of his life goals and objectives and he/she may be convinced to adopt family planning methods, but he/she may not be willing to adopt a particular method such as sterilization or any method because of religious, societal, or other barriers. In addition, observations are that when a male is operated upon vasectomy or when a female undergoes through tubectomy, he/she wants to maintain this information strictly confidential. This might be because such operations are still considered taboo in many rural Indian communities. Once a person has passed through this stage of thinking of adopting, he/she would go to the next stage of intention to search (looking for and knowing about the methods of family planning) and intention to adopt. However, our model suggests that after going through all these stages, it is not that a person (or couple) will automatically adopt the planning method. There is one additional crucial factor to direct a person toward adoption. This is the factor of environmental opportunity. By environmental opportunity we mean all kinds of supply, from the environment, *i.e.*, the supply of contraceptive measures, the incentive scheme by the government, etc. Thus, if one has passed through all the stages plus he/she finds a favourable environmental opportunity, then only adoption of family planning method can be assured. In this context, our model of family planning acceptance is as follows. It is based on the assumption that the environmental supply is available to potential users.

In Fig. 5.1 + and – signs for objectives show structured and unstructured objectives; for situation they show deterministic and uncertainty situations; and for decision process they show choice based on full calculation and choice based on ethics. The model brings out very clearly that the psychological developmental programmes can go a long way to improve acceptance of family planning in the masses. It is also obvious that the couple with unstructured objectives in healthy decision situation make a particular 'soft core' for the family planning organization. The impact of psychological development in uncertainty decision situation is, nevertheless, not clear. People holding unstructured objectives in uncertain situation are the 'hand core' and will not be voluntarily motivated. Finally, the importance of supply of contraceptives cannot be overemphasized. Model shown in Fig. 5.2 incorporates supply in a more general fashion.

		Decision situation			
		+			
		Decision process		Decision process	
		+	-	+	-
Objectives	+	High	Indeterminate	Low	Indeterminate
	—	Low	Low	Low	Low

Fig 5.1: Model of Family Planning Acceptance, Individual and Social Contexts.

			Decision situation			
			+		—	
			Decision process		Decision process	
			+	-	+	-
	+Supply	+	High	Indeterminate	Low	Indeterminate
Objectives		—	Low	Low	Low	Low
Low	—Supply	+	Indeterminate	Indeterminate	Low	Low
		—	Low	Low	Low	Low

Fig. 5.2: Model of Family Planning Acceptance, Individual and Social Contexts, and Supply of Contraceptives.

If the supply of contraceptives is unavailable or the objectives are unstructured, the possibility of family planning acceptance is low.

Nevertheless, if the decision situation is conducive and supply is available, it may help in promoting contraception among the couples who have unstructured-objectives too, at least in some cases due to imitation/diffusion. There is a need to test the above models empirically; if they are confirmed by the empirical data, their logical message for the programme is clear. They show that the following factors are needed to improve family planning programme in India.

1. Launching of programmes for psychological development. Radio, T.V., newspaper, and other mass media can greatly help in this endeavour. They will supplement the work done by family extension.
2. Transforming the social environment from uncertainty to at least risk situation through developmental works and confronting the remnants of the old order, *i.e.*, to involve majority of the rural masses in the national developmental processes and move toward an egalitarian, socialistic society. It is imperative to make people feel and realize that they can share in the national prosperity, provided they take a more conscious and rational decision.
3. Increasing the supply of family planning methods in rural areas. Several researches have now shown that the family planning in villages is just an another name for sterilization programme. There is a poor knowledge of other spacing methods. A real 'cafeteria approach' that includes all the contractive methods will make the programme more efficient and humanistic. It is a welcome move that the Government of India is shifting the accent from performing sterilization to the spacing of children now.[31]

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SIX

Social Issues in Population Management : An Apology for Sociological Intervention

Population management may be defined as a diagnostics of population problems. It aims at identifying malfunctioning structures and processes of population examining their causes scientifically, and suggesting their solutions. Today, when the Third World countries are struggling hard to catch up with the Western technologically advanced countries through the institution of planning, population management has become a science of great value to the national planners. It focuses on population issues such as management of health and family planning programmes, internal and international migration, urbanization, ecological problems, employment, and regional imbalances in population processes which have very great importance in planning for human welfare. Needless to say, the social problems cannot be defined in isolation. Rather, they are contextual. Even the models of men which emerge in the process of solving them are part of human conditioning – that is, both the problems and the ways of approaching them are existential. Thus the perception of population problems cannot be separated from the larger questions of social history and social structure.

This chapter is devoted to social issues in population management; presents an abridged picture of population policy in India, and suggests how the policy can be made more effective. To achieve its purpose, the content is divided into three parts: the first part presents a brief sketch of Indian population policy; the second part contains the various theoretical models of population; and the third part examines the Indian policy critically, and suggests some improvements over it.

Population Policy in India

According to the late Prime Minister, Smt. Indira Gandhi, population control is an integral part of the Indian plans for development.[1] She felt that population growth in the developing countries could lead to shortages and tensions, impede the process of change-over from agricultural phase towards affluence, and affect the per capita standards of production of goods and services. And, therefore, she suggested that 'the rate of growth of population should be well below the rate of growth of the economy', which ensures that each person has a greater share. When she received the United Nations Population Award in 1983, she said:

'The task is not easy. Millions of couples, many of them illiterate, must be persuaded and given the means. With low incomes and crowded homes, couples can seldom afford to, or have the ability to, use contraceptives. So they choose sterilization. There is some opposition, though less than in other countries, and more for political reasons than religious. Our people have taken well to laproscopy. With the assurance of reversibility, more will avail themselves of these services as fast as we can provide them. We owe it to young parents in developing countries to find simpler means. Medical research should also produce more effective and safe formulations to confer long-lasting immunity on men and women. These should be inexpensive, easy to use and without harmful aftereffects. Couples should be able not only to avoid conception but to have fewer children at their choice. False theories about the deleterious ethical consequences of the use of contraceptives insult the inner worth and dignity of human beings, and their mastery over themselves.'[2]

In the opinion of Smt. Gandhi economic backwardness was both a cause and a consequence of excessive population growth in India. As a cause, it creates demand for children who are expected to help family in agricultural and craft activities, and it preserves traditional attitudes towards reproduction; as a consequence, it reduces per capita share of resources and opportunities for all, and children in particular. However, she hoped that as political freedom, helped by 'miracle drugs', could reduce deaths due to famine and epidemics, the Government with the consent and cooperation of the people would lower the birth rate.

At this juncture it may be said that population policy should not be confused with a population control programme. Population control programmes have a limited aim of reducing fertility, while population policy must be a complete programme of national development and it must address larger issues such as health, urbanization and migration, employment, regional balance, etc. too. However, in India population policy has always been used as a euphemism for population control – through the family planning programme. India is the first country to launch an official family planning programme with a clear-cut aim of reducing birth rate at the national level. From the beginning the National Planning Committee of the Indian National Congress strongly supported promotion of family planning as a state policy. And after Independence, over the years, the Planning Commission has constantly raised budget allocation to family planning. It made a number of changes in the organizational aspects of the programme, and evolved innovative strategies to counteract the perceived obstacles. Nevertheless, the first formal statement on population policy was issued in April of 1976 during the Emergency period when it was envisaged that 'we are facing a population explosion of crisis dimensions'. The then health minister had a neo-Malthusian perception; he thought that the whole nation perceived the problem in the same way and is ready to choose some harder options. To quote:

'It is clear that public opinion is now ready to accept much more stringent measures for family planning than before. However, the administrative and medical infrastructure in many parts of the country is still not adequate to cope with the vast implications of nation-wide compulsory sterilization. We do not, therefore, intend to bring in central legislation for this purpose, at least for the time being. Some states feel that the facilities available with them are adequate to meet the requirements of compulsory sterilization. We are of the view that where a state legislature, in the exercise of its own powers, decides that time is ripe and it is necessary to pass legislation for compulsory sterilization, it may do so.'[3] It is notable that for the first time in the 1976 policy *the beyond family planning* measures such as raising age at marriage, legal sanctions, tax and welfare benefits, incentives, a community oriented approach, and mix of development policies were also incorporated in the population policy.

History showed that the above perception was definitely false and the public opinion in favour of compulsory family planning was very much lacking. Thus, when the Janata Party came to power, defeating Congress (I) in subsequent Lok Sabha elections, which were fought on the issue of coercion in family planning, voluntarism was re-emphasized; which survived the division and downfall of the Janata. Though the family planning programme has gained in importance interminably over time after that it is envisaged that the birth rate will be checked through evolving voluntaristic strategies of family planning, and voluntary organizations. There has been a marked shift in population policy of India after the Emergency experience of the first policy. Now it aims at reducing the net reproduction rate to one by 2001 in order for improving education and productive capacity of manpower, and, consequently, developing the country. A review, however, indicates that this goal will be reached only by the year 2006-11. For the purpose of planning, the states have been divided into three categories. It is envisaged that Group A states – Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Kerala, Maharashtra, Punjab, Tamil Nadu, Chandigarh, Delhi and Pondicherry – will reach NRR-1 in 1991-92. Group B states – Assam, Karnataka, Madhya Pradesh, Orissa, West Bengal, Andaman & Nicobar Islands, Dadra and Nagar Haveli, Goa, Daman and Diu, and Mizoram – will reach NRR-1 by 1996-97. And Group C states – Bihar, Jammu & Kashmir, Rajasthan, Uttar Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, Tripura, Andhra Pradesh, and Lakshadweep – will reach NRR-1 by 2001-02.

The new policy has disowned the neo-Malthusian urgency, and it has clearly recognized that in the present day India there are various ethical theories – some are even contradictory to the official policy – which need to be countered by spread of a correct (formal) political theory, and education. One may hypothesize that this shift in policy is caused by many international, national and subnational developments. At the international level today there is a greater pragmatic concern about the general developmental issues – such as anti-imperialism, removal of poverty and inequality, improvement in international terms of trade, developing a new world-order, more rational use of world resources, justice and quality of life – rather than about the requirements of growth alone. At the national level the post-Emergency voting behaviour has shown that the demographic theory is politically sensitive and people will not tolerate coercive intervention by the state in their reproductive behaviour. And the subnational developments have oftentimes undermined the nation as a level of policy or developmental planning and research.

The statistics on acceptance of family planning methods, supplied by the Ministry of Health and Family Welfare, show that the annual family planning acceptance rate, in terms of the percentage of equivalent sterilizations among all the married women of reproductive ages, is more than 2.0. In the last two decades this rate has been fairly stable, except in the year 1972-73 when it reached 3.50 due to implementation of mass sterilization (mainly vasectomy) 'camps', and in years 1976-77 (Emergency period) when it reached 8.20.[4] Table 5.1 of the previous chapters has shown data on family planning acceptance in India for the period upto 1982.

The figures for the period 1980-85 are as follows[5] (they are expressed in' 000):

Years	*Sterilizations*	*I.U.D. insertions*	*Equivalent C. C. users*	*Total acceptors*	*Equivalent sterilizations*
1980-81	2,049	625	3,789*	6,463*	2,515*
1981-82	2,792	750	5,163*	8,705*	3,328*
1982-83	3,983	1,097	5,948	11,028	4,679
1983-84	4,531	2,131	8,213	14,875	5,697
1984-85	4,082	2,562	9,811	16,455	5,481
Task for seventh Five Year Plan 1985-90	31,000	21,200	14,500	66,700	

* Revised

Data show that after a trough of 1977-78 the family planning programme in India has again recovered thanks to stress on incentives, mass promotion, person to person contact, delivery of technical services, raising the age at marriage, women's education, and role of parliamentarians and other political leaders – irrespective of their party affiliation.[6] But it has still not touched the level of 1976-77, nor have sterilizations and IUD insertions reached the targets to be achieved to reach the goal of NRR-1 at national level – which are computed by the Registrar General's office on the basis of 1981 census figures (in Paper-I of 1984). CBR which declined from 40 to 34 during 1970s has been stagnating around 33 in 1979-84. DR is 12, and IMR is still around 104. The questions remain: (*a*) what are the constraints in the family planning acceptance?; and (*b*) what remedial measures should be adopted to change this situation?

TABLE 6.1: **Acceptor Rates in Different States, 1969-85 (Equivalent Sterilisations per 100 currently married women)**

Year	*Andhra Pradesh*	*Assam*	*Bihar*	*Gujarat*	*Haryana*	*Himachal Pradesh*	*Jammu & Kashmir*	*Karna-taka*	*Kerala*
1969-70	2.85	1.06	1.16	2.43	1.86	1.21	1.26	1.22	2.58
1970-71	3.00	0.93	1.03	2.38	2.02	0.88	1.84	1.13	2.70
1971-72	3.68	2.02	1.47	6.93	3.75	1.19	1.10	1.32	5.29
1972-73	4.34	2.78	2.51	2.32	3.93	1.13	1.61	2.90	3.25
1973-74	1.89	0.95	0.34	1.53	1.70	1.11	0.64	1.45	1.90
1974-75	1.65	1.76	0.34	3.59	4.87	1.18	0.82	1.35	2.27
1975-76	2.03	6.27	1.54	3.55	4.94	2.87	1.17	2.40	5.23
1976-77	11.10	9.14	5.88	6.86	14.56	15.86	2.35	8.27	6.81
1977-78	1.63	0.60	0.32	2.61	1.07	0.54	0.82	1.92	2.64
1978-79	2.20	1.07	0.79	4.27	1.56	1.35	1.17	1.98	2.84
1979-80	2.03	0.92	0.77	4.60	2.14	1.85	1.08	2.40	3.09
1980-81	2.54	0.92	0.79	4.08	2.34	2.47	1.37	2.82	3.45
1981-82	3.09	1.43	1.28	4.74	2.95	3.50	1.33	3.51	3.64
1982-83	3.81	2.12	2.79	4.94	5.19	5.10	2.24	4.30	4.38
1983-84	4.00	4.52	3.24	5.16	7.46	5.28	2.78	4.57	5.48
1984-85	4.23	4.81	2.40	4.76	7.96	4.87	2.58	5.24	6.42

Year	*Madhya Pradesh*	*Maha-rashtra*	*Orissa*	*Punjab*	*Rajas than*	*Tamil Nadu*	*Uttar Pradesh*	*West Bengal*
1969-70	2.03	2.98	3.17	2.91	1.22	1.90	0.76	1.40
1970-71	1.37	3.06	3.16	2.36	0.86	1.37	0.78	1.22
1971-72	1.55	4.70	2.83	3.26	0.91	3.91	1.23	1.20
1972-73	4.40	7.04	2.78	3.92	1.70	4.27	2.33	3.40
1973-74	0.77	2.25	1.68	1.76	0.67	1.71	0.38	0.48
1974-75	1.06	2.73	1.40	2.66	0.92	2.93	0.56	0.90
1975-76	1.61	6.69	3.28	3.56	1.91	3.84	1.19	3.09
1976-77	12.20	9.12	7.90	7.46	7.04	7.75	5.76	12.10
1977-78	0.52	1.48	2.05	1.37	0.35	1.62	0.29	0.58
1978-79	1.04	1.92	2.59	1.74	0.57	3.04	0.63	1.05
1979-80	1.54	3.00	2.24	2.04	1.08	2.17	0.79	2.12
1980-81	1.55	3.19	2.23	2.96	1.88	1.91	0.80	2.78
1981-82	2.42	4.86	2.57	4.38	2.62	2.48	1.30	2.83
1982-83	3.75	6.26	3.51	8.18	2.93	3.43	2.64	3.48
1983-84	4.19	6.60	4.35	9.48	3.32	6.34	2.73	4.73
1984-85	3.59	7.29	3.61	9.13	2.74	6.83	2.65	3.51

Source: Jolly K.G., 'Forestall the Third Collapse in Family Planning Programme', *Eleventh Annual Conference of the IASP*, Varanasi, March 1986, pp. 6-7.

The 1981 census has shown that the population growth in India is a regional problem. Birth rates in Maharashtra, Tamil Nadu, Karnataka and Kerala are low. Few other states, *viz.*, West Bengal, Andhra Pradesh, Gujarat, Haryana, Orissa, Assam and Punjab are experiencing significant reduction in fertility. But in the four major states, Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan, which include about 40 percent of India's population, and specially in their countryside where about 80 percent of their population resides, no appreciable reduction in the birth rate has taken place.[7] Table 6.1 shows the acceptor rates in different states of India during 1969-85. The table shows that even when the poor performing states have shown markedly higher increase in acceptance during the high performing periods, their rate has been lower than that of the good performing states. It has been suggested that the states which have benefited more from development have succeeded in controlling population, too – or 'that once a critical percentage of couples are protected, the acceptance of a two-child norm could become a self-generating process within the society'. It has also been said that development *per se* does not cause demographic transition. On the contrary it is the political situation which has produced development as well as demographic transition in some states, and underdevelopment and statical population patterns in the other. It is also notable that in some states like Kerala where this transition is often attributed to development, family planning infrastructure and cost of family planning programme per married woman in reproductive age-group are also high[8] and they too may have caused a reduction in the birth rate. The population council has identified the major constraints in the Indian programme.[9] They are as follows:

Programme Constraints

1. Insufficient planning
2. Reliance on sterilization
3. Incompletely developed commercial marketing system
4. Partial staffing of health infrastructure: personnel recruitment and retention, and poor motivation
5. Inadequate supervision
6. Problems with production and distribution of contraceptives
7. Problems in interpersonal communications and inadequate informational material

8. Limited use of operations research and evaluation

External Constraints

1. Persistently high infant and child mortality
2. Low female literacy and education
3. Low status and economic role of women
4. Continued importance and reliance on children
5. High poverty.

The above distinction between the two types of constraints – namely programme constraints and external constraints – leads to the following two questions: *(a)* what is in the hands of programme managers and what is not, or what is within and beyond the intervention power of the programme managers?; and *(b)* what is the hierarchy of causes of fertility control in India according to their explanatory power? Obviously, the programme administrators cannot reduce infant and child mortality, illiteracy, dependence of women, socio-cultural importance of progeny, and poverty. But these factors are some crucial anthropological parameters which determine success in programme implementation to a great extent: feasibility of the policy strategies, and their achievements and ethical implications, are very much contingent on the external environment.

Researches are available on specific contributions of the programme and non-programme factors to fertility reduction. But they remain inconclusive and they do not yield any easy-to-use solution.

Cassen suggests that family planning helps in fertility reduction in the countries in which fertility is declining in response to reduced infant and child mortality, education, improvements in employment opportunities and the status of women, urbanization, and industrialization, and, though to a limited extent, even in the countries in which these developmental changes are absent.[10] In most countries, there is a substantial proportion of women who do not want children any more. Family planning programme can easily reduce births by preventing at least all the unwanted births. According to the results of the World Fertility Survey, there is a need, in many countries, to increase knowledge of family planning facilities. It has also been shown that an increase in the number of outlets may also affect use of birth control methods positively. In

India, family planning programme is integrated with development. Now the Government of India has prepared a comprehensive plan to revitalize its family planning programme, and transform it into a mass movement. The Government is planning to set up village-level people's committees comprising a government functionary and village 'opinion makers'. It also aims at encouraging community and corporate sectors to disseminate and distribute information and aids for family planning. The Government may go for a long-term family welfare policy that envisages the transfer of India's family planning implementation programme to the private sector – which will be a new experiment in family planning in the world. Contraceptives will also go commercial soon, and they will be available to couples in the same way as detergents, appliances, candles or foodgrains through regular commercial channel. Some other new steps to 'radical restructure' the programme are shifting the accent from performing sterilizations to the spacing of children, preparing an 'eligible couples register' which will be displayed at all health sub-centres and will be given to the million workers, creating a women's corps of two million workers with each volunteer assigned 60 couples to work with, incentives for two child norm, using the skills of practitioners of Indian systems of medicine, involving the organised industrial sector and cooperatives, and making family planning part of medical curriculum.

'The Revised Strategy for National Family Welfare Programme', 1986 presents a very comprehensive analysis and policy statement on family planning. For the first time the Government has accepted that we require differential area, region, and group specific approaches; members of lagging groups and communities will be involved for motivational work and for providing services so that variations within groups, which now exist, will be reduced. It is also proposed that the family planning programme should have greater linkage with poverty alleviation programme – that is, 'while selecting beneficiaries under any of the poverty alleviation schemes, preference will be given to those who accept the small family norm. Couples with a two-child certificate and youths who voluntarily give a pledge to limit their family may be selected'. Family planning acceptance will be promoted on a massive scale among the couples below poverty line. Use of computers, greater intrasectoral and intersectoral coordination, and monitoring and evaluation are some other significant features of the new policy.

The foregoing discussion of the population policy of India has summarized, in brief, the tendencies and problems of fertility control programme in India. Now, before adducing the social aspects of population planning in India critically it may be worthwhile to enunciate the various theories of population. Thus, the following section focuses on the various theories of population and their implications for policy planning.

Population Theory

Always there have been two broad divisions of political economic philosophy. Theorists of one type concentrated on systemic development – they examined population processes at macro level and related them to the problems of overall development of society. Many of them, depending on the situation, advocated increase in population, but they also hypothesized about the social consequences of over-population. Thomas Malthus, Adam Smith and Ricardo are three theorists of this type. Other theorists stressed internal contradictions of society, rather than development. They sought to discover relationships between human problems on the one hand, and 'corrupt' social institutions, on the other; they claim that such relationships are situated in apology of social norms upheld by the dominant classes which aim at maintaining *status quo*. More, Campanella, Marx and many socialist thinkers are of this type.[11] Consequently, the approaches to study population phenomenon and population policy differ in their orientation. While the approach of the developmentalists is quantitative, etic, nomothetical and cross-sectional, the approach of the radicals is qualitative, emic, ideographic and holistic. In other words, the theoretical bases of population policy are rooted in the philosophical problem: What is chiefly at the root of human problems – surplus population or irrational social institutions? Obviously, the answer to such a question can only be historical-contextual.

We feel that the human problems of contemporary India – a nation in-making – are due to both demographic and institutional factors and, therefore, the population policy of India would need a more eclectic synthetic framework to start with. On the demographic side, India experiences a high rate of population growth, mostly due to the demographic imbalance caused by post-independence mortality reduction. At the structural side, the country has a semi-feudal semi-capitalist social structure, dualism and incongruent cultural and value patterns, poverty, technological backwardness and the colonial past – which are the general characteristics of developments in the Third World countries. Neither a purely demographic solution nor a revolutionary solution is possible to solve India's problems – the country needs to make rapid strides in population control, and also in involving the poor in mainstream of development. In order to break the vicious circle of backwardness we must work on both developmental and demographic fronts side by side.

Needless to say, policy is always coloured by social theory and a clear understanding of the various theoretical paradigms is therefore essential to analysis of the policies. It may be said that an adequate theory is one that abstracts the commonness from spatial and temporal complexes on the one hand, and takes sufficient care of the specifics on the other, in order for making well calculated efforts to solve the perceived problems. Since the aims and objectives, options available, and resources are all socially conditioned a sociologically sensitized policy intervention is highly warranted in the area of fertility control and family planning. In this context, ten distinct, but overlapping, theoretical models may be presented; they were covertly used in the past in academic analyses and policy development in this area by academicians, planners and social workers (Fig. 6.1). Like models in the other spheres of human behaviour they are futuristic and interventionist, and they have been produced by historical conditions of the countries and the groups which have developed them.

1. Universalistic micro-analytical theory
2. Contextual or structural micro-analytical theory
3. Macro-analytical theory
4. Malthusian isolationist systemic theory
5. Neo-Malthusian theory
6. Welfare theory
7. Marxist theory
8. Non-Marxian structural theory
9. Global theory
10. Ethnical theory

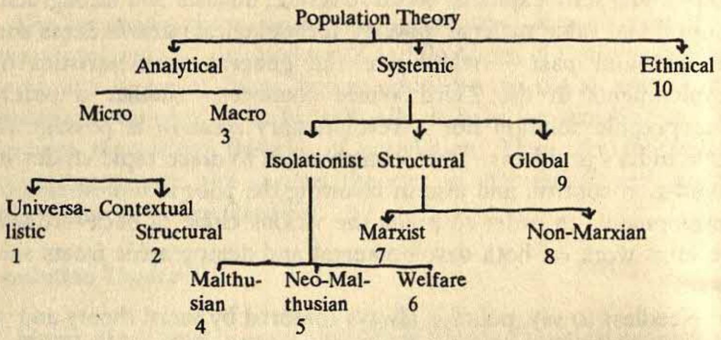

Fig. 6.1: Typology of Population Theory/Policy Construction

Broadly speaking, there are two main types of population theories, and they have two different implications for policy making. First, there are purely empirical theories which draw support from comparative and experimental data. They presuppose that 'utility maximization' principle operates at the micro level, and some variant of demographic transition theory at the macro level. Further, there are two main schools in the micro-analytical theories: while the dominant school in the micro-theories believes in universalistic patterning of the processes of satisfaction maximization, the contextual/structural school believes that the relations should be seen in their proper setting. Second, there are systemic theories – some of them address the population development in isolation, some are speculative structural theories of social production and population reproduction simultaneously, and some others are synthetic theories of relationship between population and society. The isolationist theoreticians belong to several schools. They can be Malthusian and believe in ultimate intervention by human reasoning and education as suggested by Malthus in his later writings; neo-Malthusian who say that population growth is of a crisis dimension and who propagate 'birth control'; or they can say that population should be controlled for definitely positive purposes such as health, welfare and education and not for the fear of crisis. Contrary to the rational, Malthusian, neo-Malthusian, and welfare theories, the structural theories are fundamentally utopian; in analyzing population problems of living societies, they relate the population processes to social contradictions and show that the chief causes of the social problems – which may seemingly be of the demographic origin – are basically institutional. In addition, there are some ethnical theories which are guided by ethnical or cultural interests. Following are the main aspects of population theories indicated in Fig. 6.1.

1. *Universalistic Micro-Analytical Theory*

In order to analyse and predict reproductive process, or as a matter of fact any social behaviour, the proper level of analysis is the couple or the individual. Given the budget constraints, couples or individuals are expected to maximize their total utility derived from both children and other consumer goods. Thus if other factors remain same we can expect a positive correlation between income and fertility. However, since this relationship is mediated by quality of children and social status the empirical relationship may be different from the theoretical one. Empirically, family size will be a function of income, mobility consciousness, prices, opportunities for utility increasing consumption, costs and benefits of children, opportunity costs, mortality rates, and the desired quality of children. The policy implication of the theory is that the fertility decision is largely objective. It is through lowering cost of contraceptives, increasing costs of children, providing functional alternatives to children, reducing mortality, and raising child quality aspirations that a dent in the level of reproduction can be made. In other words, high fertility persists in a society as long as the net flow of wealth is from children to parents; and as and when modernization changes the direction of this flow fertility starts declining[12]; since the causes of high fertility are social family planning intervention has only a limited chance of success if the necessary social changes are absent.

2. *Contextual or Structural Micro-Analytical Theory*

Reproductive decision is a rational decision and the unit of analysis is the couple or the individual as mentioned above in case of the universalistic theory, but the form that this rationality takes is highly indeterminate, *i.e.*, the rationality is variable; it depends on many economic, traditional, environmental and social factors – not all of them are well understood. Further, the matrix of inter-correlations between the 'relevant factors' is not same for all populations: there are unknown and unpredictable variations in the nature and strength of these relations. The policy implication is that the micro-analytical model is correct only conceptually; concrete specification of it requires understanding of the ethnographic parameters. Thus the model needs to be developed at a highly abstract level; its implications will vary from society to society which will reflect the concrete social conditions in which couples make their reproductive decisions.

3. *Macro-Analytical Theory*

According to the macro-analytical theory, population growth affects development at the societal level mainly through the influence of the former on (*a*) size and composition of the labour force, and (*b*) the saving and investment. This theory is based on neo-classical – Harrod-Domar, Cobb-Douglas or the Cambridge – models of economic growth.[13] It is said that in the developing countries a faster growing population implies that there will be more dependents who will consume but who will not contribute to growth in the national output, *i.e.*, there will be high dependency ratio. Moreover, if population growth is high a greater part of income is used in satisfying consumption demands of the existing and the newer population; less is left for saving and investment. Projections have shown that in a developing country higher rates of population growth are associated with lower rates of growth of total as well as per capita income. However, in the low income countries population control is not only a cause of development but it is also a consequence. There is an overall negative correlation between fertility and development when the latter is indexed by literacy, school enrolment, per capita GNP, infant mortality, life expectancy, ratio of the non-agricultural labour force in the total labour force, and proportion of unmarried females in age group 15-19 years.

4. *Malthusian Theory*

Malthus noticed that there is a 'constant tendency in all animated life to increase beyond the nourishment prepared for it.' He suggested that the roots of human misery or vice lie in the imbalance between power of population to reproduce, and capacity of earth to provide subsistence for men, *i.e.*, they are natural, and unavoidable by socio-economic means. But his first essay on this subject was published in 1798. After that he travelled widely, collected information, read literature on history and revised his essay eight times. By the time he wrote finally on population, in 1826, he had developed very great faith in human knowledge and foresight which, in his opinion, could counteract the 'population principle'. He envisaged that postponement of marriage reduces population growth; and education gives man knowledge and foresight to attain this operation. He said: 'If among the higher classes of society the object of securing the operation of prudential check to marriage to a sufficient degree appears to be attainable without much difficulty, the obvious mode of proceeding with the lower class of society, where the point is of principal importance, is to endeavour to infuse into them a portion of that knowledge and foresight which so much facilitates the attainment of this object in the educated part of the community.[14]

5. *Neo-Malthusian Theory*

It may be alluded that according to Malthus it is necessary to counteract the 'population principle', but it has to be achieved through exercise of human reasoning, *i.e.*, through educational and motivational programmes. Contrary to this, the neo-Malthusian theorists will say that in the less developed countries population growth is of a crisis dimension; it has already produced enormous social problems such as poverty, unemployment, conflicts, social tension, socio-technological backwardness, etc.; and it is urgent to control population at all costs. They think that it is not possible to wait for the time when education *per se* will solve the population problems by causing voluntary postponement of marriage, or by other methods. Being overenthusiastic about fertility control they are fervid supporters of all voluntary as well as non-voluntary strategies of birth control; they are activists and champions of family planning programmes. Though they have the same academic theory as of Malthus, yet they differ from Malthusian theorists in their impassionate advocacy of population control by all means – voluntaristic as well as coercive.

6. *Welfare Theory*

The welfare theory of population control also legitimates family planning programme, but its rationale is different from that of Malthusian or neo-Malthusian theory. It says that both men and women should have full knowledge of the reproductive process and birth control methods and they should also have access to birth control methods so that they can freely and responsibly decide the number of children, they would like to have. The main reason why welfare theorists favour family planning is that 'there are several advantages in changing attitudes and behaviour patterns in respect of matters like age at marriage, family limitation, spacing of children, health, education, greater female participation in work, etc. which are desirable in their own right, besides their effects on reducing fertility and population growth. For example, such changes are necessary for raising the status of women, increasing opportunities of education and employment for them, inproving the health of children and in general the totality of family welfare at the individual household level.'[15] To them, 'over-population is the cause of poverty or vice versa is a sham controversy'. In their views, over-population and poverty are symptoms of some deeper socio-economic, political and technical maladies and not of surplus population only. The welfare theorists would like to appeal to the masses for limiting family size for the welfare considerations including parental love and obligations for children, and not for the theories of 'consequences of population growth' or the Malthusian population principle. In other words, they accept the family planning programmes but not for Malthusian reasons. Furthermore, they are pragmatists, and not radicals; they have no abstract theory of social progress and they stress that practical consequences constitute the essential criterion in determining value.

7. *Marxian Theory*

In Marxism population is treated not only as a natural determinant of production, it is also treated as the basis and subject of social production. It is supposed to depend directly and inversely upon the development of productive forces and relations of production. According to Marxist interpretation, the developmental problems of the developing countries stem basically from (*a*) the long colonial exploitation by the imperialists, and (*b*) the neo-colonialism of today. Marxism maintains a separation between *common* factors applicable to a group of countries and *specific* factors applicable to each individual country. According to Marx there cannot be an abstract theory of human population; and in Marxism the focus on population is chiefly historical which implies that a mechanical solution of the population problems is not possible. Broadly, they favour population control in the developing countries, but they have stress on the importance of relations of production rather than demographic factors in theory of development and modernization. For them the precondition of development and equality is not family planning. It is the class struggle that takes society to a higher stage in history, say Marxist demographers.

8. *Non-Marxian Structural Theory*

There is no well-defined non-Marxian structural theory of population. However, since Marxian is not the only theory of class conflict – many sociologists have in the past concentrated on distribution of power, wealth and prestige in society and they have attempted to explain social phenomena in the framework of conflict without subscribing to Marxian views of genesis or implications of conflict – it is possible to explain population patterns in the light of a non-Marxian conflict theory. This theory may look upon the aspects of population dynamics and relate them to the dominant characteristics of social stratification. In other words, it will reflect on population and inequality simultaneously, but it will not share the Marxist dialectics or Marxist theory of history. For example, Ratcliffe has, recently, proposed and defended the social justice theory of demographic transition which suggests that 'to the degree that all segments of society share the benefits of the formal governing system, mortality and fertility decline'. He shows that 'change in family function is soon reflected in its changed structure'.[16] His theory of population is not a Marxian theory; it may better be called an elite theory or a systems theory.

9. *Global Theory*

One of the latest systems views on population, which is proposed by the USA in 1984 World Population Conference at Mexico city, is that 'population growth is, of itself, a neutral phenomenon'. To quote the policy document: 'It is not necessarily good or ill. It becomes an asset or a problem only in conjunction with other factors, such as economic policy, social constraints, need for manpower, and so forth. The relationship between population growth and economic development is not necessarily a negative one. More people do not necessarily mean less growth. Indeed, in the economic history of many nations, population growth has been an essential element in economic progress.'[17] According to the document the counterproductive economic policies – by which they purport the governmental control of economy – is responsible for changing population 'from an asset in the development of economic potential to a peril'. Changes in economic policies and shifting them from state control towards market are suggested as ways to improve economic standards which will cause demographic transition. In general, a global theory will claim that the demographic patterns cannot be understood in isolation. They are neither the causes nor the consequences of the system. Rather, they are part of the dynamic systems designs and they should be treated only as components of the system in a synthetic supersystemic perspective. Sorokin's theory, discussed in Chapter 1, is very close to this conception.

10. *Ethnical Theory*

Finally, there are many particularistic ethnical theories which also look at the historical and environmental conditions of the groups which propose them and aim at improving their welfare. The latest pro-natalist policy of Malaysia, or the theories of reproduction which ethnic minorities hold – consciously or unconsciously - to promote their collective welfare are examples of this type. The underlying idea behind such theories may be that there can be no universal theory which is value-neutral. And if no theory really captures the ontological truth and all theories serve some interest, the right theory is one that is consistent with the interests of an ethnic group. Further, a number of religious and tribal theories can also be included in this category, whose legitimacy is based on ethnical rationality.

The above mentioned theories present the various ways of approaching the population problems; they are not the mutually exclusive theories and two or more theories may be held at the same time by a population.

In the context of the less developed countries there are two fundamental perceptions:

(1) 'Rapid growth in population is one of the major problems facing the world community today. For the world in general, but especially in many developing countries, it is putting serious pressure on resources.

In many of the poorest countries of the world it frustrates efforts to deal with basic questions of hunger and diseases; in others the benefits of development are too thinly spread over expanding population.

For humanitarian reasons, and to achieve the higher standards of living and improved quality of life which are the aims of all countries, urgent action is needed to reduce rate of population growth.'[18]

(2) '. . . the population phenomenon, population growth and its impact on the world economy, in particular on the critical situation of the underdeveloped countries, cannot be properly and thoroughly analysed unless we take into account, together with the figures for such growth, the socio-economic factors which are the basis and the main cause of this growth. The people of the underdeveloped countries are not poorer or hungrier, nor are they ill or illiterate, because of high birth rates. Uncontrolled population growth is not the result of biological factors, it is, above all, the result of the socio-economic and cultural conditions to which these peoples were subjected throughout centuries of oppression and exploitation.'[19]

Of the above two perceptions, the former is of an ex-imperialist country, and the latter is of a modernizing ex-colonial country. It may be said that the Indian theory of population which was developed by Congress, and which came into being during the freedom struggle, was essentially Malthusian. It moved towards Neo-Malthusianism in 1970s; but after the failure of this shift, it has turned towards a welfare model. It may also be noted that while the planners have constantly justified family planning programme for its developmental function at the national level, they have explained its constraints either in terms of tradition and illiteracy, or the subjectively perceived functions of large family size at the micro level. Academicians have also expressed that with regard to population problems there is a well established conflict between social and private viewpoints. The following section will show that there is a need to emphasize the structural nature of the demographic issues, and to discuss the causes and consequences of population growth at the ethclass level.

Population Management in India

In the first major study of family planning organization and management in India, B. D. Misra and others have examined the family planning programme as a goal oriented activity which has a goal to bring reduction in fertility. They used the 'open system' approach and concentrated on environment, internal processes of the organization, and the complex interdependencies between the two.[20] For the purpose of a field study, they distinguished between *organizing dimension* and *client oriented dimension* on one hand and between plan or strategy, and observed behaviour on the other. Thus they found that the following four analytical constructs emerge in the population management.

	Plan or Strategy	*Observed behaviour*
Organizing dimension	Organizing strategy	Observed organizing activity
Client oriented dimension	Strategy for client transactions	Observed client transactions

In an another study, Misra suggests that 'one of the conditions of effective family planning work is that there be some congruence between the organizing dimension and the client-oriented dimension'.[21]

Recently, Murthy has argued in favour of using organization and management development theories in family planning on the ground that they lead to higher effectiveness. These efforts involve (*a*) setting realistic goals and devising strategies to achieve these goals, (*b*) modifying organization structure, (*c*) improving management information and evaluation system, (*d*) management training, (*e*) conceptualizing family planning as a social marketing phenomenon, (*f*) management of service delivery system, and (*g*) stimulating people's participation. She reviewed existing literature in these areas, identified gaps, and suggested that new work be done in *personnel management* and in *human resources development*.[22] In her opinion there are seven management tasks in the area of family planning (they were suggested originally by Satia and Maru[23]):

1. Mobilize support for population policy
2. Formulate population policy
3. Mobilize financial resources
4. Formulate programme and allocate resources
5. Involve communities and other agencies
6. Manage programmes by establishing structures and processes
7. Manage programme activities.

In the same context, Sharma has discussed some tools of productivity management, *e.g.*, the method of managing productivity by objectives (MPBO), the Gantt schedule, the critical path method (CPM), and the programme evaluation review techniques (PERT)[24]. He maintains that these techniques have played a great role in industrial management, construction engineering, aerodynamics and the designing of complex systems; they should also be applied to family planning engineering. He, like many others who believed in social engineering approach, felt that productivity gains are obtained by use of the best-practice technique (BPT): the BPT may be considered as an appropriate technique with regard to both economic and technical condition; it yields the minimum cost in terms of the production function and relative factor prices on each date. In this framework the productivity process, *i.e.*, the dynamic relationship between programme structure and its results is shown in Fig. 6.2. It shows that the two crucial factors joining the policy and its results are resources of the programmes and evaluation.

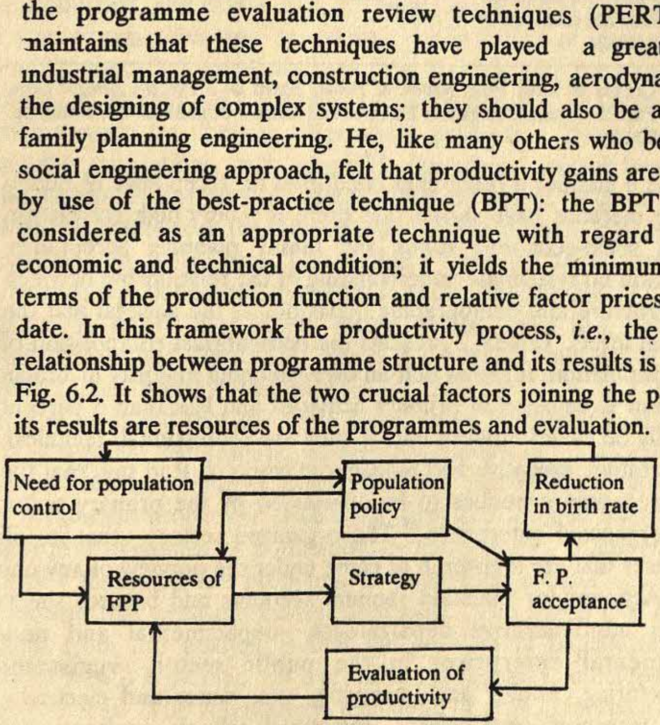

Fig. 6.2: The Productivity Process

TABLE 6.2: **Distribution of Main Workers by Occupational Categories, India, 1981**

Sl.No.	*Occupational Category*	*Total*		
		Persons	*Males*	*Females*
1.	Cultivators	41.58	43.70	33.20
2.	Agricultural labourers	24.94	19.56	46.18
3.	Professional, technical and related workers	3.19	3.18	3.24
4.	Administrative, executive and managerial workers	1.03	1.26	.13
5.	Clerical and related workers	3.35.	3.93	1.07
6.	Sales workers	4.59	5.36	1.51
7.	Service workers	3.05	3.14	2.71
8.	Farmers, fishermen, hunters, etc.	2.14	2.22	1.82
9.	Production and related workers, transport equipment operators and labourers	15.23	16.66	9.59
10.	Workers not classified by occupations	.90	.99	.55

Source: Census of India 1981, *Report & Tables Based on 5 Percent Sample Data* Part II - Special, Registrar General and Census Commissioner, Delhi, pp. 97-105.

While a number a researches conducted on acceptance of family planning methods have shown that there is a very high correlation between socio-economic status and family planning acceptance, there is still no systematic understanding of the relationship between social structure and demographic behaviour at the societal and the individual levels. Table 6.2 presents the occupational composition of India's population. It shows that an overwhelming majority of Indian population is engaged in primary activities and less than 5 percent can really be called modern elite – they are professional, technical, administrative, executive and managerial workers. Rao says that the Indian economy continues to be dominated by the primary sector and unorganized enterprises.[25] The organized sector – that is, all enterprises that are registered or come under the purview of any one of the Acts and/or maintain annual accounts and balance sheets such as administrative departments, departmental and non-departmental enterprises in the public sector, registered manufacturing, mining and quarrying, gas, water and electricity, private transport companies, registered schools, colleges and hospitals, corporate trading activities and other services – contributes less to national income than the unorganized sector. Even the large cities in India, as in the developing countries in general, have a large informal sector as source of employment.[26]

It may be a good beginning to consider Indian society as consisting of the four major sections with regard to fertility consciousness: (*a*) the poor; (*b*) the masses; (*c*) the landed and business aristocracy; and (*d*) the modern elite.[27] According to Mukherjee, the poor, who are at the bottom, have no planning for the future. They produce maximum children, and this helps them in surviving as casual labourers. The masses plan for the old age. Since they plan they do not intend to produce maximum children, but the old age security factor motivates them to have 'two sons' – that is by implication about four children. The small section of landed and business aristocracy behaves as the custodian of tradition. The members of this section may afford traditional outlook in matters or reproduction, and they may go for large family size in full awareness. Large size families may be seen as the assertion of their prestige. Finally, there is a small section of the modern elite for whom large family is neither an economic – and survival – necessity nor a requirement for looking after their property. They have high mobility aspirations, and they will, therefore, control family size themselves irrespective of whether they are asked to do so or not. With this framework the population situation in India may easily be examined in a structural perspective. Table 6.3 shows the social structure and population dynamics in India. Percentages of different strata in India's population shown in the table are, however, approximate and illustrative. There is a need to improve upon the quantitative aspects of this analysis.

It may be noted that the table given above is simplistic: there are many regional, cultural and economic variations in the conditions of people, and very complex interactions, will determine the perception of population problems. This is the first step towards knowing the structural dynamics of population in the country. Chapter 5 has already discussed the problems of population control among the poor and that need not be repeated here. The lesson that may be learnt from this analysis is that the problem of population – no matter how it is defined – is a problem of inequality, and deprivation of resources. The voluntaristic technique of population control can yield only in some circumstances, and not in all. Population control

TABLE 6.3: Social Structure and Population in India

Section	*Approximate percentage*	*Functional family size*	*Dominant population considerations*	*Appropriate state strategy to control fertility*
The poor	40	Maximum (more than eight)	No thinking, or that large family is good for family income	Programmes aimed at poverty removal
The vast mass	50	4.0	Two sons for old age security consideration	Alternative programmes for providing security in old age
Modern elite	5	2.0 or less	Small family is good for social mobility/status	Not needed
Landed and business aristocracy	5	Large (about seven)	Large family is conducive to management of property/traditional or ethnical outlook	Modernization
Total	100	About 5.6	Mixed	Socially differentiated strategy

requires that an open and modern pattern of social stratification should replace the traditional system. Since there is no simple relationship between development and population and the relationship is mediated by stratal factors we should look for the factors affecting demographic transition in different strata of the population, and in urban and rural areas, separately. Following are the main strata of India's population:

Urban	*Rural*
1. The capitalists/big businessmen	1. The landed aristrocracy
2. Managers, professionals	2. Middle peasants in service and business
3. Skilled workers, technicians, and supervisers	3. Men in service and business
4. Unskilled and semiskilled workers in organized sector, and clerical and related workers	4. Small farmers

5. Workers in unorganized sector	**5. Marginal farmers, artisans, and agricultural and non-agricultural labourers**
6. Unemployed and other poor persons	**6. The poor**

Some advantages and disadvantages of children which affect the presence or absence of planning for family size are related to conditions of the social groups to which the couples belong in Fig. 6.3. The figure is illustrative; it suggests some possible advantages and disadvantages of children in these sections of society tentatively; they may be tested empirically in the future. It may be hypothesized that the urban middle classes are more worried about reproductive decisions: both costs and benefits of children accrue relatively more to this class. They are conscious and they plan; they do worry about their future; they gain from calculations; and they have limited resources. The elite – urban as well as rural – do not have problems of resources and though they spend more on children (per capita) than the others do, the economic costs relative to their status may not be too high, and they may not restrict their choices. However, the urban elite are modern, they have lesser need for producing children, and a higher need for growth; the reproductive decisions are not merely economic - matters of cost-benefit analysis - and both psychological factors (values, goals, needs, etc.) and economic calculations influence family size in a social category. The poor have nothing to lose; they can rather benefit from children in their struggle for survival. And since they have a long history and culture of poverty many psychological and health problems do not exist for them psychologically. It shows that large family size may be a matter of economic hardships among the middle classes, and of a little positive gain among the poor, which are the two numerically dominant strata in India. Thus we require stratal strategies to control population: the traditional elite need communication, the middle strata need acceptable birth-control methods; and the poor need socioeconomic upliftment.

Section	*Advantages*	*Disadvantages*
Urban		
1. The capitalists/big businessmen	Companionship, love, happiness	Cost of education, other financial costs, health, pregnancy, child's

		sickness
2. The middle class	Help in work, help in old age, companionship, love, happiness, play, fun, distraction, marital bond, living through children, achievement, power, responsibility, incentive to suceed, fulfillment	Cost of education, other financial costs, emotional strain, health, pregnancy, discipline, child's sickness, worry over child's future, tied down, can't work, marital strains, overpopulation
3. The poor	Financial and practical help, companionship, love, happiness, play, fun, distraction	Health, pregnancy
Rural		
1. The landlords	Help in housework help in old age, family name, line, religious and social obligations, adult status, social norms, rewarding interactions, psychological appreciation	Cost of education, other financial costs, health, pregnancy, child's sickness
2. The poor	Financial and practical help, companionship, love, happiness, play, fun, distraction	Health, pregnancy

Fig. 6.3: Advantages and Disadvantages of Children

Relative Importance of Problem Dimensions and Policies

The above discussion shows that the problem of population growth is very complex and multidimensional and it is part of the larger system dynamics. Here an attempt is made to examine the relative importance of (*a*) the dimensions of the problem, and (*b*) the policy measures which are commonly suggested to deal with one or more of these dimensions. Fig. 6.4 shows some of the major problem dimensions and policy measures of population control. It shows that there are eight salient variables. They are economic development, infant mortality, literacy, fertility, traditions, efficacy, communication and status of women (a salient variable is identified on the basis of the sum of its input and output links being 5 or more).

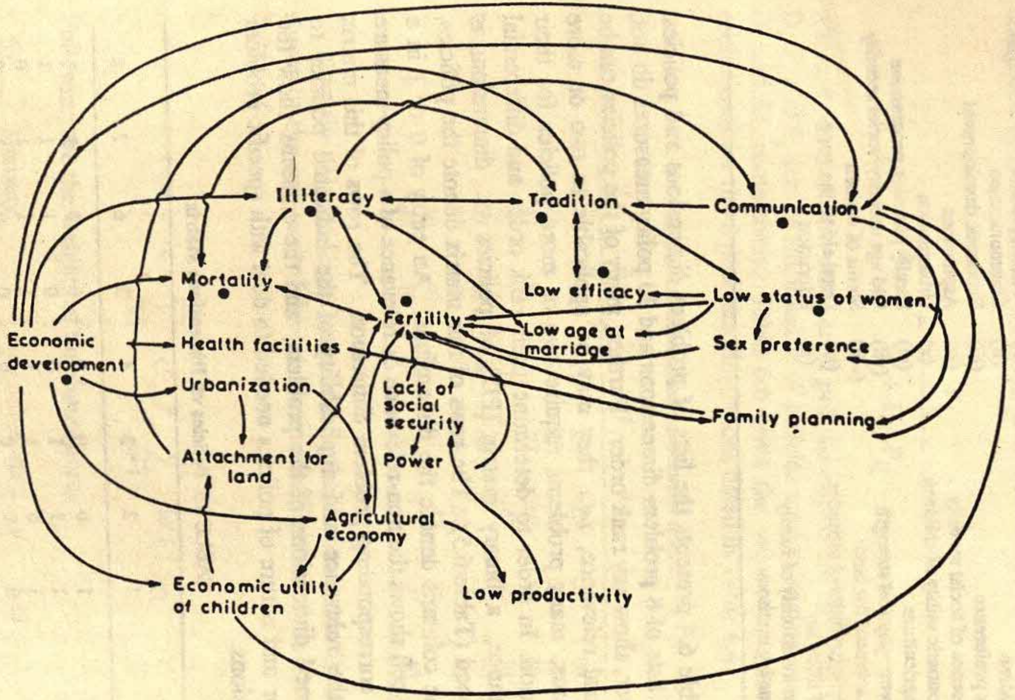

Fig. 6.4: Problem dimensions and policy measures

TABLE 6.4: Dimensions of and Policies for the Problem of High Fertility

Problem dimensions	*Policy measures*
1. High mortality, particularly among children	(i) Health facilities
2. Sex preference	(ii) Communication
3. Absence of social security	(iii) Economic development
4. Economic utility of children in agriculture	(iv) Aspirations
5. Power—physical strength	(v) Urbanization
6. Attachment for land	(vi) Family planning programme
7. Ethnic/traditional attitudes and illiteracy	(vii) Old age security/social security
8. Non-availability of family planning methods	(viii) Status of women
	(ix) Legal aid to the poor
	(x) Education

Table 6.4 presents the lists of problem dimensions and policies. These lists of 8 problem dimensions and 10 policy measures do not, however, show any rank order. Further, many of the policies can be of plural relevance, *i.e.*, they may be applicable to two or more problems; many problems require two or more policies for their resolution. In order to determine their rank order and differential importance, a binary matrix (PD) of policies vs. dimensions is developed (Table 6.5). The rows of this matrix denote the policies, and the columns denote the dimensions. An entry of 0 or 1 in a matrix cell shows the non-relevance or relevance of a policy measure to the corresponding problem dimension. The rows of this matrix show the relevance and applicability of the indicated policies to concerned dimensions of the problem, and the columns show the number and nature of policies needed to deal with specific problem dimensions.

TABLE 6.5: Policies vs. Dimensions Matrix

P	D 1	2	3	4	5	6	7	8
I	1	0	0	0	0	0	1	1
II	1	1	1	0	0	1	1	1
III	1	0	1	1	1	1	1	0
IV	0	0	0	0	0	0	1	0
PD = V	0	0	0	1	0	1	1	1
VI	1	0	0	0	0	0	1	1
VII	0	1	1	0	1	1	1	0
VIII	1	1	0	0	0	0	1	0
IX	0	0	1	0	1	0	1	0
X	1	1	0	1	1	1	1	0

PD matrix can be used to compute association coefficients between any two dimensions D_i and D_j.[28] These coefficients are computed by the following formula:

$$C_{ij} = \frac{P_{ij}}{P_i + P_j - P_{ij}}$$

where P_{ij} denotes the number of policies applicable to both D_i and D_j; P_i and P_j denote the number of policies applicable individually to D_i and D_j respectively. Table 6.6 gives the values of association coefficients for the 8 problem dimensions listed in Table 6.4.

TABLE 6.6: Dimension Association matrix

	1	2	3	4	5	6	7	8
1	1	.43	.25	.29	.25	.37	.60	.43
2	.43	1	.33	.17	.33	.50	.40	.14
3	.25	.33	1	.17	.60	.50	.40	.14
4	.29	.17	.17	1	.40	.60	.30	.17
DA = 5	.25	.33	.60	.40	1	.50	.40	0
6	.37	.50	.50	.60	.50	1	.50	.29
7	.60	.40	.40	.30	.40	.50	1	.40
8	.43	.14	.14	.17	0	.29	.40	1

Now the relative importance of a problem dimension D_i may be shown by the row sum of the association coefficients of the ith row in Table 6.6:

$$W(D_i) = \sum_{j=1}^{8} C_{ij} / \sum_{i=1}^{8} W(D_i)$$

Following are the weights of the dimensions:

(i) Mortality $W(D_1) = 0.13$

(ii) Sex preference $W(D_2) = 0.12$

(iii) Social security $W(D_3) = 0.12$

(iv) Economic utility $W(D_4) = 0.11 = W(D_i)$

(v) Power $W(D_5) = 0.13$

(vi) Attachment for land $W(D_6) = 0.15$

(vii) Traditional attitudes $W(D_7) = 0.15$

(viii) Family planning $W(D_8) = 0.09$

Thus attachment for land and traditional attitudes emerge as the two most important aspects of the problem of high fertility in India. They are followed by high mortality, power, sex preference, social security considerations and economic utility of children. Interestingly, family planning programme comes to be relatively unimportant dimension in the Indian context. Moreover, the matrix DA can be used to yield another inference of diagnostic inference, *i.e.*, the co-occurence of certain closely associated dimensions. A dimension D_i may be suggested to have co-occurrence with some other dimensions if its association coefficients with them exceed a fixed critical value. For example

$$OS\,(D_3) \equiv (\,D_5, D_6\,;\, \phi \geq 0.5\,)$$

Finally, the relative importance of a policy measure P_j may be computed in terms of its plural applicability $A(P_j)$ to various problem dimensions. It is shown by the applicability vector $A(P_j)$ which is obtained by multiplying the PD matrix by the dimension weight vector $W(D_i)$.

$$(A\,(P_j)) = (PD)\,.\,(W\,(D_i))\,/\sum_{j=1}^{10} A\,(P_j)$$

The results are as follows:

I. Health facilities $A(P_1) = 0.07$

II. Communication $A(P_2) = 0.14$

III. Economic development $A(P_3) = 0.15$

IV. Aspirations $A(P_4) = 0.03$

V. Urbanization $A(P_5) = 0.10$

VI. Family planning programme $A(P_6) = 0.07$

VII. Social security $A(P_7) = 0.13$

VIII. Status of women $A(P_8) = 0.08$

IX. Legal aid to poor $A(P_9) = 0.08$

X. Education $A(P_{10}) = 0.15$

Thus economic development and education emerge as the two most important policy measures for fertility control. They are followed by communication and social security. Aspirations come last in the order of relative priority. Nevertheless, these results are tentative. Their validity depends on the accuracy of the policies vs. dimensions matrix (Table 6.5). Students of population may start from their own speculative–empirical matrix and find out its implications.

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SEVEN

Urbanization and Migration

Introduction

This chapter attempts to examine the various issues linked with the processes of urbanization and rural-urban migration. The chapter is divided into three parts. The first part deals with the definition and theories of urbanization. The second part presents data on urban trends and characteristics of urbanward migration in India. The third part discusses some aspects of urban policy, and the nature of urban research – it comments the gap between the two. The main purpose of the chapter is to present a state of art discussion and, then, to raise a few questions which may be considered for the future research in this fast developing area of 'urban sociology', in a sociological perspective.

I

DEFINITION AND THEORIES OF URBANIZATION

Definition of Urbanization

The term 'urbanization' connotes, essentially, a demographic process – it refers to the spatial concentration of population. In this sense urbanization has always been occurring in human history; though the causes, social manifestations, and consequences of urbanization have a history of their own which the social demographers can ill afford to put off. According to Boskoff there is a continuous change in occupational dominance, division of labour, and density of population as we move away from a rural village towards an urban region, through the intermediary position of a town and city. In his opinion, urbanization has shown three distinct waves of growth in the world. In the first wave (4500 BC - 500 AD), the concentration of population grew mainly in the Afro-Eurasian land mass; it was produced by agricultural surplus, and necessitated by defense, worship and commerce. Valleys of rivers such as Tigris, Euphrates, Nile, Ganges and Yangtze underwent this demographic change. The second wave of urbanization (1000 - 1800 AD) was chiefly a European phenomenon. Its genesis is to be found in the improvement in agriculture, growing of saleable crops, bourgeois production, urban legal innovations, the university, expansion of city (when gunpowder substituted for the fortification of past), and stratification of art. And now we are witnessing a third wave of urbanization (after 1800 AD). It is caused by expansion and separation of industrial units, cooperative capital, urban-national axis and ecological complexities. Needless to say, urbanization in these distinct phases did not – and could not – show the same characteristics: urbanization and urbanism (the urban characteristics) are not independent of the qualities of age and population in which they occur.

A survey of the modern definitions of urban areas, given in the *Demographic Year Book, 1983*, of the United Nations, shows that today in every country population is divided into two dichotomous classes – urban and rural – but the criterion for defining a locality as urban is manifold. Broadly, the urban definitions are based on one or more of the following characteristics: (*a*) size of populations, or dwellings; (*b*) official recognition; (*c*) density of population; (*d*) centres with public and municipal services; (*e*) urban fringes; (*f*) occupational composition of labour force; (*g*) capitals of countries and provinces; and (*h*) other administrative centres. Further, there is no definite universal critical threshold that separates urban areas from the non-urban areas. For example, while in Sweden all 'built-up areas with at least 200 inhabitants' – with usually not more than 200 meters between houses – are qualified to be classified as urban, in Japan the minimum population size for classifying a locality as urban is 50,000 (of which 60 percent houses should be in the main built-up area). In Australia the urban areas are the clusters of 1000 or more size; they also include the areas of lower population if they have minimum of 250 dwellings of which at least 100 are occupied. In Peru even 100 + dwellings may constitute an urban locality. Obviously, the differences in the degree of urbanization between countries are partly due to this variation in definition. In comparative demography, therefore, one should first of all standardize his data for such definitional variations.

In our own country, the modern definition of an urban locality was introduced in the 1961 census for the first time. Before this, except the classification of all places with a Municipal Area/Corporation, Cantonment, Town Area Committee as urban, the tests, prescribed for distinguishing towns from villages, were not identical in all the states, nor were they applied with meticulous uniformity. The 1961 census definition, which was followed in 1971 and 1981 censuses, classified the following types of localities as urban.

(*a*) All places with a Municipal Area/Corporation, Cantonment or Notified Area Committee.

(*b*) Selected places with:
  (*i*) a population of 5,000;
  (*ii*) three-fourth of the working population outside the agriculture; and
  (*iii*) density of not less than 1,000 per sq. mile.

In respect of the marginal cases, the Director /Superintendent of each State/Union Territory had freedom to include some places, that have distinct urban characteristics, in the list of the urban area.

After establishing criteria for the urban-rural classification of population, the demographers may wish to study the distribution and the dynamics of urban and rural populations. In a given period of time, the quantum of growth in the urban population is decided by (*a*) the natural increase in the urban population, *i.e.*, excess of births over deaths; (*b*) net internal migration, *i.e.*, excess of rural-urban migrants over urban-rural migrants; (*c*) net international migration; (*d*) changes due to absorption (expansion of the urban boundaries), (*e*) changes due to graduation (of the ex-rural population), and (*f*) the definitional changes. Though all these factors have contributed to urban growth, first two of them –natural increase and internal migration –are normally the two most important factors. Moreover, since the changes in birth and death rates are often correlated, and the urban-rural differences in rates of natural increase are not significant, changes in the urban-rural distribution of population depend heavily on the process of rural-urban migration. Consequently, the study of urbanization in a country involves study of movement of population between urban and rural areas. Therefore, in this essay, on urbanization, we have also included some discussion of the state and implications of the urban-ward migration in the contemporary India.

Theory of Urbanization

The existing theories of urbanization can be divided into the following five major areas: (*a*) levels and trends of urbanization; (*b*) structural and psychological causes of rural-urban migration; (*c*) nature and roles of cities; (*d*) macrocosmic and macrocosmic implications of urbanization; and (*e*) the projection models of urbanization. Here we will briefly indicate the broad tendencies of enquiry in these areas. It may be noted that in most of the earlier works on urbanization there was at least an implicit assumption that there is an absolute and universal theory of urbanization, and the purpose of research is to discover that theory in its complexity; but now with the growing realization of the contingent nature of social theories, and the emerging contrasts between developed and developing countries, more and more social theorists are working on the contextual and the structural aspects of urban processes.

Measurement of Urbanization

Percentage of population living in urban localities in a country is the most widely used index of the level of urbanization. Truly speaking, growth of population in space and time is itself an index of urbanization, but because all countries recognize urban-rural duality of their population structures, relative growth of their urban population is deemed to be an appropriate index of urbanization. This index may, in principle, show growth even when urban population is growing (if rural population is declining faster than the urban), and may remain stable even if urban population is growing (if rural population is also growing at a comparable rate). This index varies from 0 to 100. Certainly, computation of this index demands less information, and it can be meaningfully and conveniently used for communication, and planning purposes. With this approach, the speed of urbanization can easily be measured by computing the percentage – or exponential – rate of change in the level of urbanization. Nonetheless, in order to compare speed of urbanization between different countries/populations which vary markedly in the level of urbanization, the urban-rural ratio, *i.e.* urban population divided by the rural, may be more suited than the percentage urban[2]: as the percentage urban goes high, it necessarily becomes less probable to make a large proportional gain in this ratio.

In cross-national studies, the urban populations are found to show different city-size-distributions. And it looks absurd to say that two countries are equally urbanized if their levels of urbanization are same but they differ greatly with regard to the concentration of their urban populations. To overcome this difficulty, Davis has suggested an index which is the unweighted mean of the percentage of population in urban places of different minimum size classes (say 10,000 +, 20,000 +, 50,000 +, and 1,00,000+).[3] It gives greater weights to the larger places, and, therefore, expresses the extent of urban concentration. Recently, Subramanian[4] has shown that population of 100,000 + cities divided by population in all the localities of size less than 20,000 is a good measure of concentration from many points of view: as an index it is correlated with indicators of urbanization, urban concentration and socio-economic development.

In another tradition, urbanization is measured by the average city size. This can be computed from data on the city-size-distribution. Increase in the mean – or median – size of cities/towns indicates rising scale of urbanization. Arriaga has proposed an approach to measure three different aspects of urbanization, *viz.* degree, concentration, and speed of urbanization. The degree of urbanization utilizes the statistical concept of expected value; it is defined as the expected size of the city where a randomly selected person resides.[5] The index of concentration refers to the relative distribution of the total population among cities of different sizes. This index is obtained by relating the average city-size of residence to the hypothetical maximum city-size. And the speed of urbanization is measured by the annual rate of change (arithmetic or geometric) of the average city-size of residence. Saxena and Sharma[6], after criticising Arriaga's approach on statistical and conceptual grounds, have suggested a new index of urbanization which is statistically truncated, and which takes into consideration the occupational and density variations.

If C_i, for i = 1, 2,.. . n, represents the size of ith locality in a country or a region, the degree of urbanization as given by Arriaga, is

$$U = \frac{\sum_{i=1}^{n} C_i^2}{P} \quad \text{where} \quad P = \sum_{i=1}^{n} C_i$$

Saxena and Sharma have suggested that the above measure requires the following three modifications:

(*a*) Since arithmetic mean overestimates an average, and the harmonic mean underestimates it, geometric mean of the arithmetic and the harmonic means of the distribution (of size of locality of a randomly selected person) should substitute the expected city-size;

(*b*) the inherent bias in Arriaga's index for large cities can be reduced by taking logarithm of city-size; and

(*c*) instead of taking the expected value of city-size, the expected value of a function 'F' defined for every locality be used. For any ith locality, F is defined as,

$$F_i = G[(I_i + S_i)/(A_i + Iaubi + S_i)] * G'(S_i/I_i)$$

where F_i = Industrial population in the ith locality
S_i = Service population in the ith locality
A_i = Agricultural population in the ith locality

G and G′ are some functions, and * is some algebraic operation. The new index may therefore be obtained as,

$$Z_3 = \left[\frac{\sum_{i=1}^{n} F_i C_i}{\sum_{i=1}^{n} (C_i / F_i)} \right]^{\frac{1}{2}}$$

There are three main advantages of this index: (*a*) it considers two facets of urbanization, *viz*. the size of the city of residence, and the composition of urban population; (*b*) it ranges between o and a value α and hence escapes the criticism levelled against Arriaga's index that the latter varies from 0 to p (the population of the country or the region) and thus it is unsuitable to compare countries of varying sizes; and (*c*) it is less affected by the phenomenon of city primacy. For practical purposes, not all the localities be included in calculation, but which satisfy the inequality

$$F_i \geq K(d)F$$

where K is a function of urban density 'd', and F is the numerical value of F_i, obtained by putting in the expression for F_i the agricultural, industrial, and service populations, computed on per locality basis.

Finally, Swanson[7] has used entropy and redundancy measures (of information theory) to measure concentration of urban population. He has found these measures to be appropriate on such grounds as the possibility of interpretation of extreme cases, independence of the population distribution function of size characteristics, and elegance of the spatial size concentration effects as well as the variation of concentration within a country. The redundancy measure (C_i) is defined as follows:

$$C_i = \log n - H(U)$$

$$= \log n - \Sigma p_j \log p^j \ (j = 1, 2, \ldots 1)$$

where n is the number of urban places in a country, and p_j is the population of the jth urban place in the country relative to the total population. The value of this measure ranges between 0 (when all the urban places are of the same size) and log n (when whole population is in one city). Further,

$$H(U) = \Sigma p_j \log p_j$$

H(U) is called the entropy function. Being the weighted average of the logarithms of the estimated slopes of the Lorenz curve at each point, where the weights are city sizes, its usefulness is envisaged over other measures of concentration which are based on the Lorenz curve

Structural and Individual Causes of Urbanization

As indicated above, urbanization, particularly in the sense of growth of percentage urban, depends largely on (*a*) the differences between urban and rural rates of natural increase, and (*b*) net transfer of population from rural to urban areas, and mostly on the latter. Therefore, the causes of urbanization are the same as the causes of migration from rural to urban areas – they may, however, differ from the causes of growth of urban population as such. It is a well established fact that economic growth and development, technological changes, and improvement in communication and transportation lead to urbanization. Technological changes determine what people buy, and they change the demand for workers in different jobs. This factor, in addition to mechanization of agriculture, reduces labor needs in agriculture. Then the employers are likely to decide to locate their industries in cities where access to raw materials, communication, and transportation, and consumer market is easy. In this situation, rural-urban migration tends to balance the gap between population growth and opportunities in both urban and rural areas. In general, the studies of determinants of urbanization focus on industrialization, population pressure in the rural areas, and the state of agriculture.

Migration caused by industrialization is called 'pull-migration'; and that caused by rural population pressure, or poor economic conditions, is called 'push-migration'. There is a general feeling that migration is an adaptive mechanism: It is caused by regional imbalances, and it establishes population-resources balance in the sending as well as the receiving areas. Moreover, the degree of social inequality at the place of origin is positively correlated with rate of migration[9], which shows that both overall productivity and distribution of the produce determine the rate of migration.

The relationship between structural factors and migration is mediated by individual behaviour. Researchers have also paid more attention to study individual causes of migration than the structural ones. But the explanation of migration as a form of individual behaviour has remained mostly economic. It enjoys the popular cost-benefit approach, and compares the total expected returns of migration, including the material and psychological ones, with the costs: It is assumed that migration is a rational decision and its occurrence may be predicted when benefits accruing from migration are expected to be more than the costs.[10] Following are the main individual causes of migration: jobs and income, perceived relative deprivation (below average earners may feel relatively deprived and move to increase their incomes), higher family size, desire for better education, family reasons, marriage, and urban amenities. There are many cross-national and cross-stratal variations in the structure of migration but the search for a better job is always a prominent cause of rural-urban migration. Studies have shown that young adult males (age 15 to 35), better educated and richer are more likely to migrate than others, and migrants and nonmigrants differ in several socio - cultural respects.[11]

Recently, Logan has dealt with migration from the angle of stratification of cities. In his opinion 'place is often an important basis of collective action' and 'the notion of stratification of places can usefully supplement the more traditional dimensions of class and status.[12] It may be said that migration is a process that involves stratification of places. Further, migration guarantees sufficient work force to an expanding economy, and it can allow externalization of the political and economic costs of unemployment in the periods of contraction. Migration is a non-political response to economic discontent in disadvantaged areas. Migrants are in general, found in inferior jobs at the place of destination and they provide class and status advantage to natives. In the process, some places provide reserves of workers to others. Migration minimizes disparities between places, complicates individuals' perceptions of the lines of stratification within and between places and reduces potential opposition to system as a whole. From the Marxian perspective migration may be welcomed because it reduces cost of reproduction of labour force; it is often less expensive to produce and educate workers at place of origin than at place of destination.[13] Molotch has also examined city in a political-economic framework. And he maintains that city be treated as a growth machine whose expansion reflects and serves common interests of the local elites. Growth of a city means 'a symptom of a pattern ordinarily comprising an initial expansion of basic industries followed by an expanded labour force, a rising scale of retail and wholesale commerce, far-flung and increasingly intensive land development, higher population density, and increased levels of financial development.'[14]

Lastly, there is a need to study psychology of migration too. There is no doubt that migration is largely a response to socio-economic and technological changes, but it remains an individual behaviour. Given a situation only some migrate, and not all. Why does this happen? Can the psychological factors, *e.g.*, need for achievement, locus of control, modernity, risk taking, sensuous temperament, etc. explain this selectivity?

Nature and Roles of Cities

Cities do not have fixed physical, economic and social organizations. The nature and roles of cities are parts of the broader society. They have historically evolved, and they have shown significant variation from country to country. Cities have generated many desirable as well as undesirable things. We can distinguish between generative cities (which have contributed to development) and parasitic cities (which are opposite of them). But there is a general belief that due to high personal contacts and network density, and a higher probability that a subculture receptive to and nurturing of innovation exists, innovation and adoption are associated with urbanism. Innovations are mostly urban phenomena and rate of their diffusion is positively associated with community size.[15]

Davis and Golden who proposed a theory of urbanization as early as 1954 said that it is no accident that urbanization and industrialization have gone hand-in-hand. 'The appearance of rapid urbanization in underdeveloped areas is, therefore, both a sign of change already under way and an augury of future change. Its stimulating role is possibly more hampered in well-established agrarian civilizations as those of India and Egypt and least hampered in primitive but potentially rich areas such as central and west Africa, but its effect in any case would seem to be substantial.'[16]

The city may also be viewed as a community where both orthogenetic and heterogenetic transformations occur simultaneously. In other words, while city may overall contribute to progress, in this process, due to interplay of traditional and alien cultural forces, it may change the values, institutions and viewpoints of the residents.[17]

Historically, we can talk of the preindustrial, the transitional, and the industrial cities. The preindustrial city is a political and cultural centre rather than a commercial establishment. It is shaped by the political and structural arrangements of the whole preindustrial society. For example in feudal order it may be characterized by segregation, large and extended family, rigid stratification, kinship and other particularistic ties, guild as the main economic unit, depreciated manual labour and business, little specialization, absolute authority of the ruling group, magic, religious-philosophical education, and strongly centralized political apparatus. On the other hand, the industrial cities 'are more likely to revolve about a commercial and/or industrial focus than around a religious - governmental complex.[18] They exhibit lessening of segregation, nuclear family, class and class fluidity, mobility, reduced inequality, mass culture, delimitated dominance of the ruling elite, complex division of labour, improving status of women, higher levels of formal education, 'youth-culture', absence of extensive kinship ties, higher quality of life (income, consumption and life expectancy), large-scale bureaucracy, stress on innovation and entrepreneurship, science, democracy, pluralism, mass communication, and secularization. But the change from preindustrial state to industrial state is not disjointed. In the process of transition, several such cities come into being which are partly preindustrial and partly industrial.' They are the transitional cities.

Cities in the present day developing societies are mostly of this type and they exhibit a complex interaction of tradition, modernity and revision, that can produce enormous tension in the system. Most of them have grown in a colonial framework and show the tragic consequences of heterogenetic and colonial forces. Even after independence – of the countries in which they are located – structural economic bases of such cities do continue. Many of them may not follow the path of industrialization shown by the western countries. For example in India post-Independence planning has aggravated crisis by increasing maldistribution of wealth and regional disparities. Pathak has presented four distinct features of India after independence: (*a*) extraordinary concentration in metropolises (which have stopped growing themselves but are creating urban patterns along main transport arteries); (*b*) growth of urban economy at the cost of rural economy; (*c*) absence of functional link between developing urban economy and the need-based rural economy; and (*d*) decline of rural industries. As a result of these developments, the rural artisans were left with only two options – either they fall back on agriculture as landless labourers, or migrate to cities. Thus the more urbanized regions have urbanized faster than the less urbanized regions, locational efficiency being more a matter of colonial considerations and historic accident rather than natural endowment.[19] Thus the whole process of urbanization has produced a less progressive, dual[20], exploitative and dependent system. In this system, while foreign investment accelerates the rate of urbanization in the developing countries, urbanization effects a selective acceleration of the informal and tertiary sectors of the urban economy; this selective positive effect is accompanied by an inhibition of growth in the industrial labor sector which is caused by investment dependence, and which results in overurbanization.[21]

Implication of Urbanization

Urbanization is one of the fundamental changes facing the developing societies today. It has brought about irreversable and revolutionary changes in the West in structural as well as in the individual items. Its contribution to modernization is so well recognized that in empirical sociological – and also socio-psychological – studies urbanization occurs frequently as a proxy independent variable for the development and modernization, alone or in combination with some other structural characteristics of modernization. It has changed social institutions, human relations, dynamics of mobility, and human consciousness. At the microcosmic level, it is often hypothesized that urbanization (*i.e.*, change in size, density and heterogeneity of population) would produce the following properties:

1. Social differentiation.
2. Increased importance of secondary groups, and pecuniary nexus.
3. Multiplication of roles.
4. Deviance, and unconventional and innovative behaviour.
5. Rise in expectations.
6. Individuation and alienation.
7. Multinimity rather than unanimity, leading to tolerance or conflict.
8. Loss of the local territorial community as a meaningful unit of social organization.
9. Growth of voluntary associations.
10. Marginal man.
11. Snobby, unsensitive and utilitarian man.

There are many answers to the question why urban living produces the above mentioned characteristics.[22] As a consequence of demographic changes, relations with friends and family weaken, and the relations with neighbours and strangers become more impersonal, artificial, superficial, and utilitarian. Such changes may also be seen as coping strategies to excessive social and environmental input level of the city including rights, sounds, demands, and opportunities encountered.

An implication of the above is that urbanization leads to modernization and makes it difficult to predict relations. At the same time, it is easy, due to sheer size of the urban population, for certain ethnic, occupational and religious sub-cultures to flourish – as for diffusion of new attitudes and behaviour patterns to develop – say some theories which attempt to show that urbanization may lead to fundamentalism and conflicts, too. Thus contrary to our expectation that urbanism may cause alienation, anonymity and impersonality, it may instead cause unconventional cultures by congregations of 'critical masses' (*i.e.*, number of persons sufficient to maintain these subcultures).[23] Moreover, when the concept of social residence becomes increasingly unimportant (due to multiple networks and high residential mobility which are the essential features of urbanism), residents must come together – for functionally specific and relatively well defined goals. Therefore, urbanism is particularly suited to growth of voluntary associations.

Nonetheless, urbanism is not a generic situation: cultural and historical circumstances in which it develops effect its nature and implications, and it should be examined in a contextual perspective.[24] It has also been suggested that city living may have no impact and the behavioural differences may be explained adequately by age, socio-economic class, ethnicity, etc.[25]

Finally, it may be stressed that the diffusion of western culture, which is occurring in many developing countries, is significantly mediated by marginal men – who are cultural hybrids. They exhibit conflict of loyalties and 'divided self', and unresolved value and behavioural problems of transition. There are various marginalities – based on sex, class, occupation, etc. The inner conflict, they generate, may be mild or severe; but in any case it loads to rejection of group, alienation, double consciousness, duality of personality, ambivalence of attitudes and sentiments, self-hatred, divided emotional organization, accentuation of self-consciousness, race-consciousness, inferiority feelings, aggressiveness in a defensive sense, and criticism of society. [26] This makes the issue of relationship between urbanization and social change more complex than hitherto assumed. Research is needed on the characteristics of marginality and their consequences for change in concrete set-ups.

Projection Models of Urbanization

There are three main types of models of urbanization: (*a*) models dealing with structural correlates of urbanization; (*b*) models specifying growth curves for prediction purposes; and (*c*) models describing city-size distribution. Economists and sociologists have often expressed degree of urbanization – or its logarithm – as a function of the socio-economic factors such as industrialization, per capita – or per worker – income, literacy, population pressure on agricultural land, and growth rate of the urban population.

It has also been suggested that the level of urbanization in the developed countries is above the levels exhibited by the developed countries at the corresponding values of the developmental factors, *i.e.*, there is an 'overurbanization' in these countries which is dysfunctional for the socio-economic as well as cultural systems. Demographers say that the 'overurbanization' has been caused by the push-migration, and not by the opportunities to work in urban industry. Data show that when India had a 11.9 percent population in localities of size 20,000 plus, in 1951, the percentage shares of agriculture, industry and services in total active population were 70.6, 10.7 and 18.7 respectively; but when an average developed country had 11.0 percent population in localities of size 20,000 plus, the percentage shares of agriculture, industry and services were 52.1, 27.3 and 20.6 respectively. [27] However, there is no general agreement on the theory of overurbanization which has been questioned by Sovani[28], Kamerschen [29], Moir[30], and Pandey[31] among others. It is suggested that the use of central tendency for defining the norm 'provides no theoretical justification either for the "balanced" development in urbanization and industrialisation or that countries above that are over-urbanized.[32] The relationship between urbanization and nonagricultural labour is tautological; it is by definition that urban is nonagricultural. Despite this, since the process of development in the developing countries shows a dependent development, and the highly capital intensive industry in the developing countries is developing at the time when rural-urban migration has just begun, urbanization is likely to increase employment in service, and not the industrial sector.

Projections of urban and rural populations pose tremendous problems. It is easier to forecast mortality – and even fertility – trends than migration, which is one of the major components of the urban population growth. The component method of projection is, therefore, infeasible. In order to forecast urban population, some form of ratio method may be particularly suited. In this method, the future ratios of urban population are obtained by a suitable technique of extrapolation or estimation, and then the projections of urban population are obtained by multiplying these projected ratios by projections of the total population. Obviously, the total error in the resulting projections depends on both error in estimation of ratios of urban population and error in projections of total population. The method of urban-rural-growth-difference (URGD), developed by the United Nations, is an important variant of this method. It concentrates on changes in the difference between the growth rates of urban and rural populations. It has been shown that URGDs are more stable than the urban growth rates, and the URGD method does not yield any absurd result. It can be shown that if URGD is constant percentage urban will follow the following logistic model:

$$100\frac{U_t}{T_t} = \frac{100C}{1+C^{dt}}$$

where 100 U_t/T_t is the percentage urban at time t, d is the URGD, and e is 2.718228 – the basis of Napierian logarithms. Annex I of the *U.N. Manual VIII* gives the tabulated values of this function for a fictitious time scale.[33]

Regarding city size distribution, Auerbach observed, as early as 1913, that when the cities of Germany were ranked in order of number of inhabitants, the product of a city's rank and its size tended to be constant. This and other similar works have led to a long debate on the rank size rule. The formula for the rank-size rule is log size = log B - β log rank or size = B rank -β , or size X rank β = B, where β and B are two empirical constants. Some theorists have found that Pareto curve, rank X size α = A, is more appropriate than the conventional rank size rule.[34] There are three main substantive explanations of the city size distribution. They come from (*a*) the concepts derived from central-place theory, (*b*) the ideas based on principles of maximization or optimization, and (*c*) the notions based on assumption of a random growth of cities. According to central-place theory, city size distribution comes into being as a result of the forces of diversification (leading to growth of a large number of places benefiting from locations close to raw materials) and the forces of unification (leading to development of a small number of large places to minimize transportation costs to the consumers); emergence of rank size rule reflects a balance of these two forces. The second explanation is that the economic returns are functions of size, and the resulting balance is a kind of 'entropy-maximizing steady state'. The third explanation, which is not clearly distinct from the second, says that the rank size rule is a product of varied and multiple stimuli.[35] Further, data show that due to primacy of their largest cities the model does not fit well for the developing countries: their largest city, developed in the colonial framework, is many times larger than the second largest city.[36] Research shows that the phenomenon of primacy and the rank size rule are not necessarily mutually exclusive. Primacy of the largest city is compatible with the rule of all cities excluding the largest one if there is a low closure of and high interdependence within the study area. Low closure and the low interdependence produce primacy of city, establishing its link with the external world, without any well defined pattern of rank size rule. Only those countries (like U.S.A.) which show high closure and high interdependence satisfy conditions for the fulfilment of the rank size rule. High closure and low interdependence areas, very under-developed, and isolated from the world, show no city of appreciable size or a well defined pattern of city size distribution.[37]

II

URBANIZATION IN INDIA

Now in the light of the definitional and theoretical issues, raised above, we can look at the picture of urbanization in India. For this purpose we have taken data from the Indian censuses, mostly from the 1981 census of India. Table 7.1 presents some data on urbanization in India, for the period 1901-81, and the increase in number and population of cities. As is evident from the table, after an initial decline during 1901-11, urbanization in India has improved, though slowly, after 1911 on a continuous basis. The level of urbanization

TABLE 7.1: **Urbanization in India, 1901-81**

Year	No. of towns	Urban population	Level of urbanization (percentage urban)	No. of cities	City population	Percentage of population in cities	Percentage share of cities in the urban population of India
1901	1834	25,616,051	11.00	24	6,586,347	2.83	25.71
1911	1776	25,580,199	10.40	23	6,955,756	2.83	27.19
1921	1920	27,691,306	11.34	28	8,142,241	3.33	29.40
1931	2049	32,976,018	12.18	33	10,090,279	3.73	30.60
1941	2210	43,558,665	14.10	47	16,519,922	5.34	37.93
1951	2844	61,629,646	17.62	74	27,308,404	7.81	44.31
1961	2330	77,562,000	18.26	102	39,380,309	9.27	50.77
1971	2531	106,966,534	20.22	145	60,123,375	11.37	56.21
1981	3225	156,188,507	23.73	216	94,292,998	14.33	60.37

Source: Computed from Census of India, 1981, *Provisional Population Totals: Rural-Urban Distribution*, Paper-2 of 1981, office of the Registrar General and Census Commissioner for India.

has increased from 10.40 percent in 1911 to 23.73 percent in 1981. There was unprecedented increase in urbanization between 1941-51–by more than 3.5 percent–which was mainly due to large quantum of refugee-migrants from Pakistan (and today's Bangladesh) after partition of the country. It may, however, be said that the censuses in the post-Independence period have particularly shown an accelerating pace of urbanization. In this period, both urban population and number of towns have increased, though former increased at a faster pace than the latter. There was a temporary decline in the number of towns between 1951-61 but this was largely due to definitional changes that affected the classification of localities, mostly the areas with population below 10,000.

Urban Growth in India, 1951-81, a report on the statistical analysis of 1981 census data has shown that the percentage of urban population based on 2046 continuing towns has increased from 16.18 percent in 1951 to 19.76 per cent in 1981. Moreover, the number of cities and their share in urban population have also increased incessantly. But this does not imply that all the cities, *i.e.*, all the urban areas of 100,000 plus size, have grown faster than the medium and small size towns. A large part of the growth of population of the cities is due to the rise in their numbers, caused essentially by entry of some smaller towns into the group of cities after attaining the required population size.

The cause of the rapid growth of urban population in contemporary India is mainly threefold: urban industrialization, dependent development, and increasing pressure of population on the rural land. Some move because it improves their life, and others because immobility endangers their survival. The share of manufacturing and mining in the net domestic product has increased from 10.7 percent in 1950-51 to 16.4 percent in 1980-81, and that of tertiary sector from 28.8 percent to 42.1 percent, and the share of agriculture in the net domestic product has declined from about 60 percent to about 40 percent; but the proportion of labour force employed in agriculture has remained constant at 67-70 percent.[38] It is notable that in India there has been a concomitant growth of the total population of the country, and urbanization. One may, therefore, hypothesize that population growth has contributed to urbanization, directly or indirectly. Population growth may have affected the urbanism, *i.e.,* size and density of population, in at least three ways: *(a)* Population growth increased the quantum of natural increase in the urban

TABLE 7.2(a): **Urbanization and Urban Occupational Structure, Male Workers in Indian States, 1981**

Sl. No.	*India/State*	*Level of urbanization*	*Per capita NDP (1981-82) at current prices*	*Percentage of labour force*						
				A	*M & Q*	*MA*	*C*	*T & C*	*S*	*O*
	India	20.50	1758	11.66	1.04	30.26	4.12	20.95	9.88	22.06
1.	Orissa	9.01	1308	17.31	2.06	20.70	3.63	17.31	9.44	29.42
2.	Bihar	10.93	995	17.39	7.19	22.33	3.64	20.56	9.44	19.50
3.	Uttar Pradesh	13.78	1313	16.02	.08	27.34	3.71	18.91	7.85	26.11
4.	Madhya Pradesh	15.65	1241	13.87	2.20	27.04	4.07	19.47	9.62	23.73
5.	Rajasthan	16.45	1441	13.32	1.13	25.45	5.56	19.16	9.64	25.79
6.	Kerala	17.75	1447	17.31	.21	24.24	5.35	22.77	12.17	17.94
7.	Haryana	18.06	2581	10.72	-	29.80	3.92	23.92	7.32	24.18
8.	Andhra Pradesh	21.10	1536	13.20	1.14	24.40	4.81	21.68	13.14	21.62
9.	Punjab	22.45	3164	12.78	.08	31.29	4.57	23.70	7.75	19.98
10.	Karnatka	23.94	1541	15.33	.90	28.76	4.80	20.51	9.11	20.51
11.	West Bengal	25.26	1595	5.35	1.45	38.46	3.00	19.77	11.11	20.08
12.	Gujrat	26.68	2192	9.01	.43	37.29	3.03	21.01	10.23	18.95
13.	Tamil Nadu	29.91	1373	12.40	.31	32.88	4.20	24.37	10.25	15.59
14.	Maharashtra	32.25	2496	7.78	.35	35.49	3.49	21.11	10.13	21.66
	Average of 1-5	13.16	1259	15.58	2.53	24.57	4.12	19.08	9.20	24.91
	Average of 6-10	20.66	2054	13.87	0.58	27.70	4.69	22.52	9.90	20.85
	Average of 11-14	28.52	1531	8.64	0.63	36.03	3.43	21.56	10.43	19.07

A = Agriculture, M & Q = Mining and quarrying, MA = Manufacturing, C = Construction, T & C = Trade & Commerce, S = Service, O = Others.

TABLE 7.2(b): **Urbanization and Urban Occupational Structure, Female Workers in Indian States, 1981**

Sl. No.	*India/State*	*Level of urbanization*	*Percentage of labour force*						
			A	*M &Q*	*MA*	*C*	*T &C*	*S*	*O*
	India	20.50	23.09	.54	24.77	2.92	8.92	2.29	37.44
1.	Orissa	9.01	25.45	1.82	15.45	1.82	10.00	2.73	41.82
2.	BIhar	10.93	28.48	5.45	12.12	1.82	8.48	1.82	41.82
3.	Uttar Pradesh	13.78	14.70	-	27.57	1.47	6.62	1.47	48.53
4.	Madhya Pradesh	15.65	28.57	.73	23.97	3.87	7.99	1.21	33.41
5.	Rajasthan	16.45	26.00	1.33	24.67	2.67	6.00	2.00	38.00
6.	Kerala	17.75	17.16	-	21.03	1.72	8.15	3.43	48.50
7.	Haryana	18.06	9.62	-	13.46	1.92	3.84	1.92	69.23
8.	Andhra Pradesh	21.10	33.59	0.31	24.17	3.45	9.58	1.88	27.16
9.	Punjab	22.45	6.25	-	13.80	1.25	8.75	1.25	70.00
10.	Karnataka	23.94	28.31	.55	30.51	2.76	9.01	1.84	26.84
11.	West Bengal	25.26	4.95	.99	21.78	1.32	6.60	2.97	61.39
12.	Gujarat	26.68	21.37	.36	18.48	3.26	9.78	4.35	43.12
13.	Tamil Nadu	29.91	27.59	.12	35.39	2.68	8.73	1.75	23.86
14.	Maharashtra	32.25	21.50	.22	23.67	3.47	10.75	3.04	37.24
Average of 1–5		13.16	24.64	1.87	20.76	2.33	7.82	1.85	40.72
Average of 6–10		20.66	18.99	.17	20.59	2.22	7.87	2.06	48.35
Average of 11–14		28.52	18.85	.42	24.83	2.68	8.96	3.03	41.40

Source: Computed from Census of India, 1981, *Provisional Population Totals: Rural-Urban Distribution*, Paper-2 of 1981, Office of the Registrar General and Census Commissioner for India; Census of India, 1981, *Key Population Statistics Based on 5 per cent Sample*, Paper-2 of 1983; and Bose, Ashish, 'Demography Beyond Decimal Points', Tenth Annual Conference of IASP, IIM Banglore, 1985, p. 15.

areas; *(b)* population growth increased the size and density of population in the rural areas; and *(c)* it created conditions for migration from rural to urban areas–the volume of this migration at the existing level of urbanization contributed highly to growth of urban population, even if it did not alleviate the rural population pressure to an appreciable extent.

Now Tables 7.2 (a)-(b) show some data on the levels of urbanization, and urban industrial structure of male and female labour force, for 14 major stages of India. They reveal that: *(a)* there is no clear relationship between urbanization and income, yet the five least urbanized states are also the least developed states; *(b)* a sizeable proportion of male labor force in the urban localities of India is engaged in trade, commerce and services; *(c)* proportion of female labour force engaged in agriculture and 'other services' is considerably greater than the similar proportion for males; *(d)* as urbanization increases, share of agriculture in urban labour force decreases; *(e)* urbanization and the share of manufacturing sector in the urban labour force are positively related (but for males only); and *(f)* there is no obvious relationship between urbanization and construction activities. The dependency model may be used to explain the Indian situation: the context of urbanization in India is not same as it was in the West. While in the West urbanization was produced by internal socio-economic forces at comparably lower rate of population growth, in the developing countries it was produced in a colonial framework in the beginning, and in a neocolonial framework due to excessive population growth subsequently. However, it should be recognized that all the urban migrants working in non-industrial activities are not necessarily push-migrants. State planning in free India, aiming at growth and welfare, had to create and expand infrastructure; and it produced social institutions and services as a result of which lot of pull-migration was effected which remained unrelated to industrialization. Lastly, the importance of modernization of values, and growing alienation in rural areas (due to social inequality, unemployment and underemployment, population growth, end of jajmani-system, reification, and many other factors) for causing urban-ward migration cannot be overemphasized. On the one hand, these factors freed the rural youths from the traditional bondages of caste, kinship and family, and on the other, they increased their motivation to search for better opportunities. And despite urban poverty many migrants are living in

TABLE 7.3: **Rural-Urban Composition of Internal Migrants by Place of Birth, 1981***

(Persons in lakhs)

Place of birth	*Persons*			*Males*			*Females*		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
Within the State									
Total	1723.12	1312.55	410.57	463.99	276.32	187.67	1259.13	1036.23	222.90
	(100.00)	(76.17)	(23.83)	(100.00)	(59.55)	(40.45)	(100.00)	(82.30)	(17.70)
Rural	1471.47	1210.08	261.39	365.52	242.76	122.76	1105.95	967.32	138.63
	(85.40)	(70.23)	(15.17)	(78.78)	(52.32)	(26.46)	(87.83)	(76.82)	(11.01)
Urban	248.60	100.50	148.10	97.59	33.16	64.43	151.01	67.34	83.67
	(14.63)	(5.83)	(8.60)	(21.03)	(7.15)	(13.88)	(11.99)	(5.35)	(6.64)
Other States of India									
Total	239.90	87.88	152.02	114.76	30.87	83.39	125.14	57.01	68.13
	(100.00)	(36.63)	(63.37)	(100.00)	(26.90)	(73.10)	(100.00)	(45.56)	(54.44)
Rural	151.39	70.75	80.64	71.90	23.73	48.17	79.49	47.02	32.47
	(63.10)	(29.49)	(33.61)	(62.65)	(20.68)	(41.97)	(63.52)	(37.57)	(25.95)
Urban	86.85	16.69	70.16	41.88	6.91	34.97	44.97	9.78	35.19
	(36.20)	(9.96)	(29.24)	(36.49)	(6.02)	(30.47)	(35.94)	(7.82)	(28.12)

* Excludes Assam

The figures within brackets indicate percentage to all the total, rural and urban migrants in respective categories. The given figures may not add up to total as unclassified migrants are omitted from rural, urban categories of migrants which are however negligible.

Source: Census of India, 1981: *Report & Tables Based on 5 Per Cent Sample Data*, Part II– Special, Series-1, India, Registrar General & Census Commissioner for India, p. 65.

better conditions than the conditions they had before migration is a well established fact.

Let us now look at rural-urban migration process in particular. According to 1981 census data on place of birth, percentage of migrants in population of India was 30.70–18.05 for males and 44.24 for females. And the proportion of interstate migrants among all the migrants was 18.49 percent for males and 8.80 percent for females. The place of last residence data also gave the similar results: According to these data, migrants constituted 31.25 percent of India's population; separately, amongst males and females, they constituted 18.38 percent and 45.02 percent of the population respectively. Further, 17.68 percent male migrants and 8.47 percent female migrants were interstate migrants. Table 7.3 gives detailed information on rural-urban composition of the internal migrants by their place of birth. It shows that 261.39 lakh persons migrated from rural area to urban, and 100.50 lakh in the reverse direction, within the state of birth; 80.64 lakh persons migrated from rural to urban areas of a state other than state of birth and 16.69 lakh migrated in the reverse direction, *i.e,* from urban to rural area between states. In both interstate and within state migration, the ratio of volume of the rural-urban to the urban-rural streams is higher for males than for females. Further, in the rural-urban stream, males outnumber females in interstate migration, and females outnumber males in the within-state migration. And in the urban-rural stream, females outnumber males in interstate as well as within-state migration. The table also shows that among all the migrants enumerated in urban areas, those who come from rural areas outnumber those who come from other urban areas; the gap between the two is higher in case of males than in case of the females.

Table 7.4 compares the volume of urbanward migration between 1971 and 1981. It shows that the volume of urbanward migration as well as its share in the total migration increased significantly in this period, for both males and females, and from both rural and urban areas. It also shows that the share of urbanward migration in the total migration is higher for interstate migration than for within-state migration.

Table 7.5 presents some data on the place of last residence, sex, and reason for migration, for all the urban migrants. These data show that while employment is the main cause of the geographical mobility among males in interdistrict as well as interstate migration, marriage is the main cause among females. As the data pertain to all the age-groups, 'family moved' is found to be another very important cause of mobility both for males and females. Further, 6.66 percent males and 2.36 percent females have migrated for educational reasons. When we relate migration to distance (migrants within district, between district of the same state, and between states may be called short distance, medium distance and long distance migrants respectively), we find that when males move for a longer distance it is mainly for employment, and less for familial and other reasons; among females also marriage which is the main cause of migration declines in importance with distance, and employment and familial reasons (family moved) become more important.

TABLE 7.4: **Urban In-migrants in India, 1971-81**

(Persons in lakhs)

	Total		*Male*		*Female*	
	1971	1981	1971	1981	1871	1981
Within state						
Total	274.27	410.57	131.24	187.67	143.03	222.90
	(19.76)	(23.83)	(33.46)	(40.45)	(14.37)	(17.70)
Rural	182.30	261.39	89.14	122.76	93.16	138.63
	(13.14)	(15.17)	(22.73)	(26.46)	(9.36)	(11.01)
Urban	89.82	148.10	40.93	64.43	48.89	83.67
	(6.47)	(8.60)	(10.43)	(13.88)	(4.91)	(6.64)
Other States						
Total	111.34	152.02	65.87	83.39	45.47	68.13
	(59.77)	(63.37)	(68.70)	(73.10)	(50.30)	(54.44)
Rural	57.18	80.64	36.51	48.17	20.67	32.47
	(30.70)	(33.61)	(38.08)	(41.97)	(22.86)	(25.95)
Urban	50.04	70.16	26.51	34.97	23.53	35.19
	(26.86)	(29.24)	(27.65)	(30.47)	(26.03)	(28.12)

* 1981 figures exclude Assam, while 1971 figures include Assam.
Source: As in Table 7.3.

It is notable that among the urban migrants who have come to urban areas for reasons related to employment most are literate. The proportion of literate persons among male migrants is 76.85 percent, and that among females is 52.73. This shows that migrants are positively selected at the place of origin. When the data on migrants by cause is cross-classified according to the place of origin, we find that percentages of the literate persons among male urban migrants coming from urban and rural areas, for the cause of

TABLE 7.5: **Percent Urban Migrants by Sex, Place of Last Residence, and Reason for Migration**

Last residence	*Reason for Migration*									
	Employment		*Education*		*Family moved*		*Marriage*		*Others*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
Total	43.14	4.20	6.66	2.36	27.31	32.51	1.06	46.61	21.88	14.32
A. Last residence elsewhere in India										
Total	44.86	4.31	6.89	2.42	26.76	32.08	1.09	48.07	20.39	13.12
Rural	47.49	4.20	8.07	2.58	25.34	29.26	1.17	51.53	19.73	12.41
Urban	41.12	4.45	5.19	2.22	31.52	35.89	0.99	43.56	21.18	13.88
I. Within state of enumeration										
Total	40.50	4.08	7.99	2.45	28.52	30.45	1.30	49.92	21.69	13.09
Rural	42.50	3.97	9.55	2.69	25.33	27.59	1.40	53.40	21.22	12.35
Urban	37.42	4.25	5.52	2.10	33.62	34.90	1.13	44.65	22.31	14.09
1. Elsewhere in District of enumeration										
Total	34.34	3.68	9.01	2.61	29.61	27.13	1.70	52.89	25.35	13.68
Rural	35.59	3.59	10.73	2.86	27.34	24.91	1.74	55.84	24.59	12.80
Urban	31.33	3.92	4.79	1.98	35.25	32.89	1.58	45.45	27.05	15.76
2. In other districts of state										
Total	45.88	4.50	7.09	2.29	27.57	33.96	0.95	46.77	18.50	12.47
Rural	50.63	4.56	8.16	2.43	22.97	31.78	1.00	49.59	17.24	11.63
Urban	40.68	4.45	5.91	2.16	32.75	36.07	0.89	44.19	19.77	13.13

II. States in India beyond state of enumeration										
Total	55.49	5.12	4.21	2.31	22.48	37.83	0.60	41.53	17.22	13.20
Rural	61.45	5.30	3.94	2.07	18.51	37.21	0.51	42.69	15.59	12.72
Urban	48.71	4.97	4.53	2.52	27.20	38.44	0.70	40.73	18.86	13.33
B. Countries in Asia beyond India	15.16	1.87	1.88	0.96	36.30	41.40	0.45	16.41	46.20	39.36
C. Other Countries	19.93	6.52	14.15	7.83	33.84	43.64	0.91	19.38	31.16	22.63

Source: As in Table 7.3, pp. 318-25.

TABLE 7.6: **Percent Urban Migrants Reporting 'Employment' a Reason for Migration by Work Status, Sex and Last Place of Residence**

Last residence	*Literate*		*Illiterate*		*Main workers*		*Marginal workers*		*Non-workers*		*Seeking/Available for work*	
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*
Total	76.85	52.73	23.15	47.27	91.23	39.84	0.47	1.13	8.30	59.03	2.01	3.08
Rural	72.44	42.19	27.56	57.81	91.57	39.82	0.46	1.41	7.97	58.77	2.23	3.02
Urban	84.25	66.01	15.75	33.99	90.89	40.45	0.49	0.80	8.62	58.75	1.63	3.15

Source: As in Table 7.3, pp. 360-61.

employment, are 84.25 and 72.44 respectively; among females the corresponding percentages are 66.01 and 42.19. Thus even among the rural females mostly those who are socially of somewhat higher status move for the employment related reasons. This selectivity is clearly marked among the persons of age 15 plus years (Table 7.6). Besides, 91.23 percent of male migrants and 39.84 percent of female migrants who report 'employment' as the cause of migration are main workers, and 8.30 percent males and 59.03 percent females are nonworkers. This shows that there is a sizeable number of persons who come for employment, but they are unable to find a suitable job. Urban-rural background of the migrants does not make any difference in this regard. Majority of them are illiterate or 'literate but below matric'. However, 28.88 percent males and 23.92 percent females are 'matric but below graduate'; 8.12 percent males and 12.95 percent females are 'graduate and above'; and 1.79 percent equal to degree or postgraduate degree'. Moreover, many of the migrants fail to find a secured job, and they land up in informal sector–that is, in the expending slums, informal labour market, and associations based on kinship, caste, and religious network.[40]

Table 7.7 and Table 7.8 show the educational and demographic characteristics of the urban migrants who reported employment as the reason for migration and who are seeking/available for work. The data show that about half of them reported 5 + years as the duration of residence: about half of them – 50.58 percent males and 42.26 percent females – are in the age group 30 plus years; and many of them are well educated. The question is: why do they not return and what plans do they have for the future? Unfortunately, the data do not allow to answer such questions.

TABLE 7.7: **Percent Urban Migrants Reporting 'Employment' as Reason for Migration, now Seeking/Available for Work by Sex and Education**

Literacy/Education	*Total Migrants*		*Migrants with duration of residence 5 + years*	
	Male	*Females*	*Males*	*Females*
Illiterate	23.32	36.84	27.13	39.47
Literate but below matric	37.89	23.04	39.52	24.38
Matric but below graduate	28.88	23.92	25.07	21.08
Technical diploma or certificate not				

equal to degree	--	--	--	--
Graduate and above, other than technical degree	8.12	12.95	6.82	11.61
Technical degree or diploma equal to degree or postgraduate degree	1.79	3.25	1.46	3.46
Total no. of migrants	(256,628)	(40,535)	(128,811)	(20,895)

Source: As in Table . 7.3, pp. 364-65.

TABLE 7.8: **Percent Migrants Reporting 'Employment' as Reason for Migration, now Seeking/Available for Work by Sex and Age**

Age (in years)	*Total Migrants*		*Migrants with duration of residence 5 + years*	
	male	*Females*	*Males*	*Females*
0 - 14	1.97	4.25	1.25	2.52
15 - 19	17.13	16.57	9.96	13.75
20 - 24	30.40	27.34	21.54	22.13
25 - 29	17.93	21.20	16.62	19.33
30 +	32.53	30.64	50.58	42.26
ANS	.04	--	.05	

Source: As in Table 7.3, pp. 364-65.

Lastly, Table 7.9 presents some data on percentage contribution of states to the total urbanward migration in India – divided according to place of origin (birth) – for 10 states which contribute more than 5 percent. It reveals that majority of urban migrants who are born in India beyond the state of enumeration are from U.P. (24.22 percent), followed by those who are from Bihar (9.71 percent). And the states which contribute to urbanward migration more than their share in the national urban population are U.P. Bihar, Kerala, Rajasthan and Punjab.

In sum, in India the level of urbanization as well as urban concentration shows an increasing trend. There are three main causes for this: (*a*) development and industrialization; (*b*) dependence on advanced economies; and (*c*) demographic transition. Compared to the Western model of urbanization, the share of services – and informal sector – in the urban population of India is disproportionately high. The data show that the rural-urban migration stream is gaining in volume. while employment is the main cause of urbanward migration among the males, the females migrate mainly for marital and other familial reasons. Though most of the migrants who move towards urban areas for job are able to find some full-time work, yet some of them have to seek employment for a number of years – they are illiterate as well as educated, young as well as old. And among all the urban migrants who are born in India beyond the state of enumeration an unusually large number of persons have come from U.P. and Bihar.

TABLE 7.9: **Percent Urban Migrants by State**

State	*Percent of Urban Migrants*						*Percent in national urban population*
	Place of Birth data			*Place of last residence data*			
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*	
1. Andhra Pradesh	5.41	2.88	2.52	5.15	2.64	2.49	7.98
2. Bihar	9.71	6.72	2.77	9.76	6.54	2.98	5.57
3. Gujarat	5.55	2.94	2.59	5.66	2.87	2.76	6.76
4. Karnataka	6.02	2.87	3.14	5.95	2.74	3.19	6.86
5. Kerala	5.75	2.77	2.95	5.16	2.40	2.69	3.05
6. Maharashtra	5.78	2.24	3.53	5.83	1.95	3.87	14.06
7. Rajasthan	6.59	3.95	2.59	6.28	3.54	2.68	4.57
8. Tamil Nadu	5.92	2.29	3.62	5.63	2.09	3.50	10.20
9. U.P.	24.22	15.61	8.40	23.64	14.58	8.80	12.79
10. Punjab	5.00	1.95	3.00	5.12	1.73	3.34	2.96

Source: As in Table 7.3, pp. 214-45.

III

URBAN POLICY AND DEMOGRAPHIC KNOWLEDGE IN INDIA

How can the demographic knowledge be utilized in policy formulation and planning? This is such a simple question that it is neither challenging nor interesting to look for its answer. It obviously requires that the demographic enquiry be biased towards 'operations research' rather than towards 'applied demography' or 'theoretical demography'. What is more interesting is, however, to look for the causes why and under what circumstances the two, academic activity and state policies, remain indifferent to each other or are only weakly linked. There is, today, a perception of the need to make one relevant for the other in our country shows that this is the case – the international institute of population sciences, Bombay has organized a seminar on this problem between 21-22 January 1985. In this context, it becomes necessary to comment on the nature of divorce between the demographic knowledge and the policy making, particularly in the case of urbanization and internal migration. This section attempts to achieve this goal. In the end, we will, out of compulsion, present our views regarding developing a close connection between academics and state planning.

Urbanization and the Development Policy

As mentioned earlier, in the year 1951, when the first population census was taken in post-Independence India, 17.62 percent of the country's population was living in the urban localities; the total number of urban localities in the country was 2844, out of which 74 were class-I cities, having a population of 100,000 +. And the percentage share of cities in the urban population of India was 44.31. The country at that time was marked by the following characteristics: heavy population pressure on limited arable land, subsistence farming with semifeudal land tenure relationships, continuous subdivision and fragmentation of small holdings, widespread rural underemployment and unemployment, inadequate transportation and marketing facilities, and a high rate of illiteracy.

In the first three Five Year Plans, the state adopted a growth oriented approach that was articulated best in the Mahalanobis strategy that emphasized necessity of modernization of industry, import-substitution, creation of basic infrastructure, production of capital goods and long-term planning.[41] This period was therefore marked by 'a fairly rapid economic growth and development of basic infrastructure, by rising real wages and incomes for large numbers of people, if not all of India's poor'.[42] With regard to urbanization, the National Planning Committee, 1947 felt that 'the growth of industrialization would mean, not only a redistribution of population as between town and country which has been proceeding silently but slowly in the last century. . . but also better alternative employment so as to take off the burden on the soil of a disproportionately large population'. However, in the first two five year plans, during 1951-61, no attention was paid to urban development as the main emphasis was laid on developing 'industrial' and 'agricultural' sectors.

Though the subsequent plans attached clear importance to the programmes of rural development, and in particular to upliftment of rural poor, there did not emerge a well thought-out and well designed comprehensive development policy for the country – urban and rural development plans remained more or less isolated and neutral to each other. They simply promoted modernization in a small island of urbanity in the vast ocean of rural poverty. Consequently, the urban population started increasing at an unprecedented rate; both the number of towns and class-I cities in the total urban population increased at a fast rate. As a result of this now about 24 percent of the population of India resides in the 'urban' localities, and the number of towns is 3245, of which 216 are class-I cities: the percentage share of the cities in urban population of India is 60.37. In the period 1971-81 the decadal growth rate of the urban population of India was 46.02 percent which is about double the decadal growth rate of the total population. Thus the rural-urban population transfer contributed to the total growth of urban, population about equally with the natural increase, *i.e.*, births – deaths.

The rapid growth of urban population, particularly of the large cities, has created a number of problems of living and planning. The future will add to these problems further as the country will become more urbanized and have greater concentration or urban population in the large cities. According to Mohan, who has applied the urban-rural-growth-difference (URGD) method to project the future urban population of India and assumed that URGD is likely to decline in accordance with the decline in growth rate of the total population, the level of urbanization is expected to be around 27-28 percent in 1991, and around 31-32 percent in 2001. This implies an absolute increase in the urban population of about 70 million in the current decade, and a further 80.85 million increase during 1991-2001. Thus the urban population of India which was about 164 million in 1981 will be around 320 million in year 2001. The Seventh Five Year Plan document (Vol. I) gives an estimated urban population of size 315 million in the year 2001, indicating a share of 32 percent in the total population.

In the beginning the policy makers made an assumption that while the modern industrialization will solve the problems of economic underdevelopment at the macro-level, simultaneously designed Community Development Projects (which subsequently led to the concept of Panchayati Raj) will solve the rural agricultural and infrastructural problems. Experience shows that this was a wrong assumption. In the basic framework of modernization, the Community Development Programme, originally conceived as a people's programme, failed to modernize the rural backward economy to the desired extent: this was wrong to assume that it is possible to improve the quality of life of the masses even if decisions are taken from the above, and the local power structure remains untouched.

The dysfunctions of the Mahalanobis model were discovered soon. They were: (*a*) poverty, (*b*) fall in the growth rate of economy, (*c*) over-urbanization, (*d*) regional imbalances, (*e*) concentration of capital investment in the big metropolises like Bombay, Calcutta, Madras, Delhi, Ahmedabad, Lucknow, Kanpur, Hyderabad, etc., (*f*) and the proliferation of tertiary activity (low grade trade and services) in the same large metropolises; most of the rural migrants could be absorbed only in low grade production process activities, indigenous means of transport, or in low grade services. It also became clear that except in certain states the Rural Industrialization Projects, initiated by the central government (Planning Commission) in 1962-63 to develop the rural economy and reduce exodus to urban areas, achieved only restricted success.[44]

In the Third Five Year Plan (1961-66) the national planners began to realize the importance of the relationship between the industrial development and growth of major cities, and thus the states started preparing Master Plans for selected 'important areas' with 100 percent assistance from the centre, efforts were also made to control urban land values through public acquisition of land, appropriate fiscal policies, laying down of minimum and maximum space standards for housing, utilities, services, and community facilities. The Fourth Plan focused explicitly on the problems of urban development and need for a National Urban Land Policy through a 'regional approach', and a policy of industrial decentralization. It was suggested that the new industries, as far as possible, should be established away from the large cities. Schemes were prepared for improvement of services in some selected large cities of different states, again with the assistance from the centre, and for the integrated development of Calcutta Metropolitan area.[45] Strategies were formulated to safeguard interests of the poor and less privileged sections of society through programme of environmental improvement in slum areas. The need to solve the problems of rapid urbanization was further emphasized in the subsequent plans.

The Fifth Five Year Plan, 1974-79, laid emphasis on the 'minimum needs programme', and on the idea of planning on regional basis. In this period several regional studies of Calcutta, Bombay, Madras, Nagpur, Bangalore, Hyderabad, Trivandrum, Rajasthan Canal and backward areas of Gorakhpur, Deoria and Mirzapur – Rihand were started. The following were the main objectives of this plan:

1. To augment civic services in urban centres as far as possible and to make them fit up to a reasonable level.
2. To make efforts to tackle the problems of metropolitan cities on a more comprehensive and regional basis.
3. To promote development of smaller towns and new urban centres to bear the pressure of increasing urbanization.
4. To assist in the implementation of the projects of national importance related to metropolitan cities or interstate projects.
5. To provide necessary support for the enlargement of the scope and functions of the industrial townships undertaken by the central government undertaking, so as to make them self-contained.

Specifically, the Sixth Five Year Plan (1980-85) lays stress on improvement of urban slums, integrated development of small and medium towns; integrated urban development in the metropolises and nationally important areas; development of the capital region to shift concentration of economic activities from the core of Delhi; and urban research. The plan document says that conscious effort will have to be made to check migration from rural to urban areas. And location of industries and other economic activities should be planned in such a way that distribution of economic opportunities – and job opportunities– promotes population dispersal. 'Efforts will also have to be made to develop small and medium towns which can act as countermagnets to the metropolitan areas'. However, as Buck has rightly commented, 'apart from a sentence or two of platitudes without any policy thrust, there is no urbanization policy in this country'.[46]

Later in 1982, Planning Commission appointed four task forces on the theme of 'housing and urban development' which consisted of a large membership of 14 officials and academicians with a retired civil servant demographer as its Chairman, and an urban economist from the planning commission as the member- secretary. The report was completed within a period of barely nine months of its appointment in January 1983. These task forces were on (*a*) planning of urban development; (*b*) financing of urban development; (*c*) management of urban development; and (*d*) shelter for the urban poor, and slum improvement. Their perspectives were as follows:

1. Rapid expansion of non-agricultural livelihoods and employment, assisted by the promotion of education and technological skills at urban and semi-urban nodes.
2. Rapid articulation of a very large number of growth centres or *mandi* settlements each of which will enjoy a minimum infrastructure of energy installation, financial service, counselling institutions, and communications connecting neighbouring villages to the regional network.
3. Recreation of regional networks of infrastructure.
4. Strengthening of the infrastructure in existing capital city, urban nodes and towns.[47]

Now in the Seventh Five Year Plan Draft (Vol. II) of the Government of India following are the 'major constituents' of the urban plan:

1. The planned and integrated development of small and medium towns and cities along with slowing down of the growth of big metropolises.
2. Revitalisation of civic bodies.
3. Thorough-going reforms of municipal tax systems and municipal administration in general.
4. Concentration on the improvement of slums and the provision of basic municipal services.
5. For the purpose to work out schemes of regular devolution of funds from State governments and to establish the necessary institutional framework for channeling capital funds for the improvement of urban infrastructure.

On the rural side, and about strategies to fight rural poverty, we should mention the role of some governmental programmes such as 'the Drought Prone Area Programme' (DPAP), 'the National rural Employment Programme' (NREP) and 'the Integrated Rural Development Programme (IRDP). The objectives of the DPAP are: (*a*) development and management of irrigation resources; (*b*) soil and water conservation and afforestation; (*c*) restructuring of the cropping pattern and pasture development; (*d*) changes of agronomic practices; (*e*) livestock development; and (*f*) development of small and marginal farmers and agricultural labourers. NREP aims at insulating the economically handicapped sections of the rural community from hunger, and strengthening the rural infrastructure. Originally it was a non-plan scheme but now it includes both on-going Plan and non-Plan works, e.g., irrigation, flood protection, drainage and anti-water logging works, forestry works, rural roads, punchayat ghar, community centre, drinking water supply scheme, deepening and rejuvenating of tanks and reservoirs, etc. This programme is of course not so much for eradication of poverty as for the prevention of destitution in periods of acute distress or in areas having extensive unemployment. A gradual rise in wages is neither its objective nor a likely outcome.

It is the IRDP that aims at raising the poorest families in rural areas above the poverty line by giving them income generating assets and access to credit and other inputs.[48] For this purpose families of about 5 persons with an annual income below Rs. 3,500 were considered poor. A significant feature of the IRDP is that it has no predetermined sectoral allocation of resources. Depending on the interest shown by a member of the target group and its acceptability to the banking institutions, it may be made in agriculture, animal husbandry, fisheries, forestry, rural and cottage industries, and commercial and service activities. 'Small Farmers Development Agency' (SFDA) that was in operation in selected areas and 'Special Livestock Production Programme' (SLPP) have been merged into it. IRDP was started in 1978-79. Initially, 2300 blocks in the country were selected to be included in the programme and it was decided to include other blocks at the rate of 300 new blocks every year. Soon the planners recognized that the rural poverty being widespread, isolated programmes will not help. Therefore on October 2, 1980, Gandhi Jayanti day, the programme was extended to all the 5004 development blocks in the country. IRDP focuses on a target group of small and marginal farmers, landless labourers, sharecroppers, rural artisans, etc., who are at present below the poverty line, through a combination of subsidies provided by the government and loans advanced by the nationalized banks. The beneficiaries will be entitled to subsidy ranging between 25-33% of the total cost of development scheme. The rest of the cost will be met by loans advanced by cooperative and commercial banks.[49] The goal was to raise income of 3000 families, identified as the poorest in each block at the rate of 600 per year in the Plan-period. The Seventh Five Year Plan, for bringing down the poverty ratio to less than 10 percent by 1994-95, aims at providing assistance to around 20 million households. 'In addition, the State would be called upon to activate *Panchayati Raj* institutions, particularly at the village and block levels, with a view to ensuring their active involvement in the planning and implementation of the special programmes of rural development, particularly those concerned, with poverty alleviation and the provision of minimum needs'.

A number of evaluation studies of the developmental programmes intended to benefit rural poor have been conducted in the recent past. They exhibit that all these programmes are in practice biased towards better off and landed sections of the clientele; at all the levels of decision making –district, block and cooperatives – the programmes have been redirected in favour of the better off section. The development programme for the poor have failed due to absence of structural changes as well as due to lack of political commitment in implementation of the policies. 'Today we have powerful groups emerging both in the rural and urban areas – the new rich – who exert tremendous influence on the power structure at all levels. Today unless and until powerful countervailing forces are generated to resist the pressures by the new-rich on the pattern and direction of resource allocation, the goal of reduction of inequality will recede more and more into the background' says Joshi.[50]

Oberai has identified and evaluated policies of migration in Asian countries. They fall in the following four categories:

1. Direct controls on mobility.
2. Redirecting migrants to other areas through land settlement schemes and growth pole, and dispersed urbanization strategy.
3. Reducing the flow of migrants through rural development

programmes and 'nativist' policies.

4. Policies influencing urban immigration.

Oberai says that all of them have only limited success. The reasons for this are lack of high-level political commitment to a better distribution of economic activities throughout the country concentration of urban policy largely on decentralization, overlooking the fact that other policies exert much stronger countervailing pressures; attention of many policies to symptoms and not to causes of resource misallocation and severe regional disparities; lack of adequate knowledge of causes and consequences of migration to form policies; their feasibility, and consistency with other developmental objectives. He suggests that urban policy should be an essential component of an overall development strategy, linked and harmonized with policies on industrialization, agriculture, and social welfare.[51] This shows that as long as our development programmes remain disconnected, only partly successful, and in essence 'growth' oriented, urban policies are not likely to succeed – irrespective of whether we have a good migration policy or not.

The Demographic Knowledge

Having reviewed the urban policy in India briefly in the above section, we will now concentrate on the demographic knowledge that has been manufactured in the area of internal migration and urbanization. It is necessary to state, right in the beginning, that due to rapid population growth in the supposedly demographic transitional period, and a top priority attached to population control by the central government, the demographers have remained preoccupied primarily with fertility and family planning, and thus the area of internal migration and urbanization remained relatively neglected for a long time in the post-Independent India. When the question of population distribution was attempted seriously, it produced a lot of material on the various aspects of urbanization and migration. The chief characteristic of this manufacture is a predominance of analysis of the census data on trends and differentials in urbanization and migration. These studies of urbanization are based on the census definition of the concept 'urban'; and the information on migration is obtained directly from the several census questions on migration, *e.g.*, place of birth, place of last residence, etc., and indirectly from the balancing equation or its logical extensions.

Prior to 1951, however, the NSS was the only source of detailed data on migration. Therefore, in 1950s and 1960s a number of studies on migration and characteristics of cities were based on: the NSS data, Research Programmes Committee (RPC) sponsored socio-economic surveys of leading cities and towns, and the surveys conducted by a few individual scholars and a few research institutions.[52] And as population censuses started throwing greater and newer data – by in-depth analysis and by asking new questions – they became the chief source of migration data. The earlier studies were more or less descriptive, and they were planned to study the problems created by rapid urbanization and to understand those aspects of urban growth which bear specially on rural-urban migration and creation of employment opportunities. Subsequently some attempts were made to study the functions of cities and towns.[53], and their shifts.[54]

There have been many quantitative and qualitative changes in the science of urbanization and migration in the next decade, and thereafter urbanization has been related to many other demographic aspects of society;[55] the census data have been more intensively analysed, and the characteristics of migrants in different streams – such as rural-urban, rural-rural, urban-urban and urban-rural – have been examined.[56] Some studies have focused chiefly on the measurement aspects of the problem.[57] In this period, researches have also examined the complex relationship between development and migration.[58]

This is not the place to review the studies of urbanization and migration in India. We have observed that above mentioned are the broad tendencies in research on urbanization and migration in the last four decades in this country. Our submission is that demography in the post-independence India has developed primarily in a Western universalistic framework with a clear emphasis on unfolding the quantitative patterns, which could supposedly be abstracted from the colonial social reality, and relating them to development that the developing countries were and are likely to experience. In other words, the question that question that demographic community chose to address to itself was: how does demography of a primitive society respond to changes when it moves towards a developed industrial state? As a result of this, migration experts devoted their attention to: (*a*) the statistical examination of trends and differentials in migration; (*b*) the relationship between migration and development; (*c*) the development of sophisticated methodologies of data collection and analysis; and (*d*) the development of 'middle range', neoempirical and functional theories of 'push' and 'pull' factors. In this period, the state policy that developed samely in Western capitalistic framework and shared the same basic assumptions remained alienated from the masses. If the state planning had succeeded there would be no talk of bridging the gap between academics and policy planning as both of them had the same or similar Western roots. But as there is no fit between the 'development theory' and the 'material reality' of the ex-colonial countries the policy failed. A scientist is now a scapegoat who continues to work in the same international 'sanskritization' context and looks for aspirations to Western scholars and journals.

Desai has made an observation that there is little evidence that the national planners are duly or unduly concerned about what researchers in the field have to say. 'At times, they do look for endorsements and prevail upon some of us to take up research on the plan of verification. They would like us to highlight the consequences of population change but are inclined to discourage our exploration of its determinants. Perhaps those determinants are embedded in their own decision making processes which are, whether in economic, social, or population field, directed toward the preservation and protection of power base.'[59]

Engels in his classic study of the origin of family, private property and state has shown that advances in civilization are characterized by a conventional hypocrisy: 'what is good for the ruling class must be good for the whole society, with which the ruling class identifies itself'.[60]

Commenting on the forms of bourgeois theories and bourgeois theorists, Marx has classified the different schools into four main categories: fatalist school, romantic school, humanitarian school, and philanthropic school.[61] The fatalists are as indifferent to the drawbacks of bourgeois production as the bourgeois themselves are in practice to the sufferings of the proletarians. The romantics are the modern blase fatalists, and cognet. The humanitarian school is based on the distinction between theory and practice. On the one hand the humanitarian scientists deplore the bad side of the present-day production relations, on the other hand they counsel the masses to be sober and productive. And 'the philanthropic school is the humanitarian school carried to its perfection. It denies the necessity of antagonism; it wants to turn all men into bourgeois; it wants to realize theory in so far as it is distinguished from practice and contains no antagonism'. This is a framework in light of which case of the contemporary social scientists in India can be examined.

In other words, the main problem why the studies of urbanization and internal migration are descriptive, incapable of guiding policy formulation and implementation, and ideologically blase is that they lack a basis of a grand theory of society. Much of the research in this area is redundant as it remains only at the level of presentation of statistical material, and devoid of any theoretical conception of Indian man and society. This state of affairs is rather surprising. Migration is a process that involves concrete movement of real men in a definite social space. How is it possible that one can ignore the philosophy of man and society and still understand human behaviour? Till this day it is only Marx who has looked at migration in the framework of the political economy of a society.[62] Recently his theory has been developed by Standing[63] , who sees in migration a process of transition from feudalism to capitalism, and that migration indicates decay of legitimacy of customary labour relations; emergence of rural class differentiation; rural wage employment; increase in social division of labour; concentration of workers with similar skills; change in the aspirations and habits of the workers; and development of industrial reserve army, or surplus population.

In order to make utilization of demographic knowledge possible and meaningful for the policy formulation and planning, both scholars and policy-makers will have to be essentially situated in Indian conditions. Nothing less than this can help in improving the situation. Only indigenous migration knowledge and indigenous policy science can benefit from each other on a reciprocal basis. The migration experts in India should bring out the contradictions of Indian society, and try to relate the streams of migration to the dominant contradictions. In spite of so much experience of research and policy making we still lack a sociological theory of internal migration and urbanization, on the basis of which hypotheses and strategies can be developed. And we may also tell the policy makers, if they are ready to listen to us, that they are likely o make error unless they come out of their obsession with 'development' with alien connotations.

Left to itself, development creates, under its own material laws, disharmony, contradictions, and tensions. For a harmonious growth it has to be counterchecked by a scientific socialist reconstruction of society, or we have tö look for an alternative human path of development under rapidly changing world system. The experiences of unadulterated 'reconstruction of society' remedy in some countries are with us. If we wish to dissociate from advocacy of this revolution for whatever reason we have to search the latter. It is in this framework that the researchers and policy makers can join hands together and work out an appropriate and viable solution to the social problems of India.

We have already spent enough time in analysing official data – obtained from N.S.S.O., censuses, and other socio-economic surveys – and developing research methods and tools. Let us do some introspection. What is our philosophy of society? What is our philosophy of social sciences? Let us take a grand theory of society and look at migration from the grand theoretical perspective. We have virtually developed a habit of working with government documents and drawing statistical inferences from them. What can we give to policy makers if we only attempt to describe the patterns present in their data. Now we should raise some basic questions – Why is study of migration important? What is the relationship between migration and social contradictions? How does migration respond to growing 'alienation' and 'reificiation'? What are the social, economic, cultural and organismic bases of migration? What are the consequences of migration for social transformation? Research should show the place of India in the World System, characteristics of the Indian society as product of interface between the World System and Indian personality, and build an adequate theory of migration that takes these factors into consideration. It is through the investigation of such fundamental questions that we can increase the social utility of research which may be used by the planners if they wish to use it. The country is passing through a social and theoretical crisis and it is, therefore, the study of society from which some useful hypotheses can be drawn for the demographic research in the future.

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APPENDIX

TABLE 1: **Estimates of India's Population, 300 B.C. – 1871 A.D.**

Date	Population (in millions)	Source	Annual growth rate
300 B.C.	100-140	Pran Nath	
1600 A.D.	100	Moreland	
1800 A.D.	120	Playfair adjusted	0.09
1834	130	M'Culloch	0.24
1845	130	"	—
1855	175	Statistical Abstract of U.K. Possessions Adjusted	2.97
1867	194	Parliamentary Papers- adjusted	0.86
1871	255	Census (Corrected)	6.84

Source : Krishnan, P., 'Toward a Historical Demography of India: Som
Preliminary Findings', *Demography India*, 8:1 & 2, 1979, p. 11.

TABLE 2: **Census Returns and Estimated Population, India, 1871 – 1941**

(*in millions*)

Year	Census population	Estimated population
1871	203.4	255.2
1881	250.2	257.4
1891	279.6	282.1
1901	283.9	285.3
1911	303.0	302.98
1921	305.7	305.7
1931	338.2	338.2
1941	388.9	388.9

Source : Same as in Table 1.

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